



Data Science
Institute

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DATA SCIENCE INSTITUTE

Annual Report 2023/24

DATA SCIENCE INSTITUTE

As the data and artificial intelligence (AI) revolution unfolds, bringing together data science and the social sciences offers the best opportunity to understand how to find solutions to the world's most pressing problems.

The Data Science Institute (DSI) forms the institutional cornerstone of data science and AI activity at The London School of Economics and Political Science (LSE). Working alongside the academic departments across the School, the DSI fosters research, education and engagement on the study of data science and AI through a social science lens.

The DSI hosts, facilitates and promotes research in social and economic data science and AI. It forms a nexus for teaching and learning in data science across LSE departments and works closely with the Digital Skills Lab for

training in the skills and tools of data science, AI and computing. The DSI convenes experts from academia, industry, government and policy spheres to discuss the impacts of new technologies, data science and AI on society in front of public, research and policy audiences.

Working in collaboration with partners both within and beyond LSE, the Institute has an opportunity to help usher in a new era of possibility and progress, and to shape a world in which data science and AI serve as a catalyst to effect positive global change.

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FOREWORD

We are in the first stages of a technological revolution that will be at least as far-reaching and profound as the previous three industrial revolutions. It is vital to embrace these new technologies and think deeply about their implications for our teaching and research – something LSE is well situated to do, given its status as a world-leading social science institution that aims to have global impact.

The Data Science Institute at The London School of Economics and Political Science brings together experts from academic departments and research centres across the School. It supports the analysis of complex datasets and machine learning and shines a light on cutting-edge research exploring all aspects of artificial intelligence and data science. Our goal is to ensure that AI, data science and other new technologies become forces for good in society. We pursue this goal through research and teaching designed to help navigate the political, economic, social, legal, policy and philosophical complexities of these technologies, which are, in many ways, the challenge of our times.

As we reflect on last year's successes, I want to thank Professor Ken Benoit

for his service to LSE and the DSI, as he leaves to take up a new challenge. Everyone – from Interim Director Professor Martin Anthony to our external partners and donors, to the dedicated DSI team working every day to bring its promise to life – is grateful for and ready to build on the foundation he leaves behind.



Professor Larry Kramer
President and Vice Chancellor
The London School of Economics
and Political Science

DIRECTOR'S INTRODUCTION

Over the past year, the Data Science Institute has continued to build on its strong foundations, convening expertise in data science and artificial intelligence research and teaching from across The London School of Economics and Political Science. Since our launch in 2020, the DSI has operated as the institutional cornerstone of data science and AI activity at LSE. Working alongside academic departments, we have embedded data science across research and teaching at the School.

In research, the DSI has continued to develop our Affiliate programme convening nearly 60 researchers working with data science and AI. We extended our partnership with LSE Cities through renewed funding from Ordnance Survey as part of the Public Sector Geospatial Agreement. I was also delighted to join the panel for the School's Research and Impact Support Fund, which this year called for projects with a focus on AI. A total of 16 projects were selected from the academic and PhD community, including four from our own DSI Affiliates.

The DSI's acquisition this year of a new data science computing server has facilitated several AI-driven projects. It has enabled ongoing research

in marketing, political science and psychology, to harness the power of large language models (LLMs) and other transformer-based predictive models. It has also supported some exciting student projects, including the nascent "ChatLSE", an application using an open-source LLM to answer users' questions about hundreds of LSE policy documents and web pages.

On the teaching side, we have developed specialist data science degrees and modules at both undergraduate and postgraduate level and embraced the use of AI in teaching and assessment, as part of the GENIAL research project. We have also continued teaching data science on the executive programme and the Summer School.

Our external-facing capacity grew, as we built a first-rate Events and Communications team, which led a programme of innovative public, research and student events, and a joint symposium through our DSI Squared partnership with the Data Science Institute at Imperial College London.

We have continued working in partnership with other institutions and centres of excellence. The DSI manages LSE's membership of the Turing University Network. This year we took part in the AI UK Fringe with a public event, and two of the School's PhD students have been awarded Turing Enrichment scheme placements. Through our partnerships with CIVICA and Imperial College London, we bring together data science research from across a range of disciplines to share expertise and learning.

The DSI is now ready for its next phase, to meet head on the challenges and opportunities presented by AI and the data revolution. Our interdisciplinary approach, combining rigorous data science methodologies with deep insights from the social sciences, makes the DSI uniquely placed to lead the way in ensuring that AI becomes a force for good.

I left the DSI in August and am delighted that Professor Martin Anthony has joined from the Department of Mathematics as Interim Director to lead the Institute in this transition stage. He will work with our School leadership and our superb Advisory Board to shape the DSI's future strategy to match our ambition for data science and AI at LSE. This new phase in the development of the DSI coincides with the appointment of Professor Larry Kramer as the new President and Vice Chancellor of LSE. Larry formally began his role in April

2024 and is leading LSE's ambitious strategy with respect to research, education and global impact, as well as positioning the social sciences in today's rapidly changing world. The importance of the DSI to that mission will only continue to grow in the coming years.

I would like to take a moment to express my deepest gratitude to our donors and supporters, whose generosity has enabled our successes. This includes the continued support of the LSE alumnus and independent member of LSE Council

Stuart Roden, and his family. I would also like to thank the brilliant team, led by Institute Manager Jill Beattie, that continues month after month to deliver nothing but amazing results.

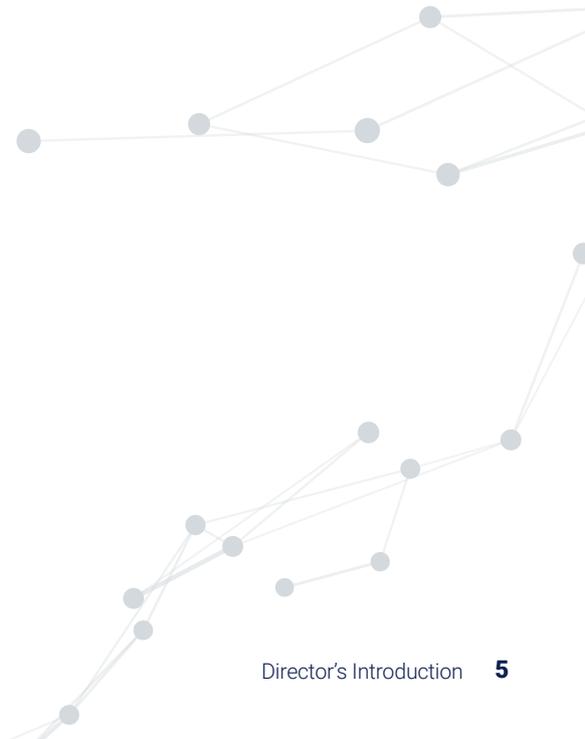


Professor Ken Benoit
Director, Data Science Institute,
LSE (2020-2024)



The DSI has been established as a focal point at LSE for applications of data science and artificial intelligence in social science, and for facilitating profound insights into the implications of these technologies. LSE has a unique contribution to make by combining fundamental work in research methodology with extensive domain-specific social science expertise. I am very pleased to be taking on this role, and I look forward to playing my part in enabling the DSI to continue its vital work in convening and catalysing such important research and teaching."

Professor Martin Anthony
Interim Director, Data Science Institute, LSE





RESEARCH



As an interdisciplinary institute, the DSI aims to foster data-science-led, multidisciplinary research in the social sciences to keep LSE at the forefront of global thinking and impact.

The DSI hosts, facilitates and promotes research carried out by our core staff and a network of Affiliates. DSI Affiliates are researchers and academics from across the School, whose work aligns with the mission of the Institute. In 2023/2024, we had around 60 Affiliates, from over 20 departments and research centres across the School.

Our research combines technical aspects of data science and AI (statistics, machine learning and computer programming) with their applications in the social world, encompassing political, economic, social, legal, policy and philosophical questions. It explores the impacts of data and AI

on society and harnesses the power new technologies to enhance research methodologies, as well as seeking to refine and improve AI capabilities.

Priority research areas include:

- healthcare and social policy
- ethics and artificial intelligence (AI) policy
- environmental sustainability and climate change
- digital societies, digital misinformation and social media
- finance, economics, firms and markets
- foundations of data science.

Over the past year, the DSI has been working to develop a cloud computing facility for LSE researchers. This transformative technology will provide a suite of services via the internet, including data storage, computing power and advanced analytics tools. At the heart of the DSI's new research capabilities is a high-performance computing server. The server currently supports DSI research using AI and advanced machine learning, including model training, inference and evaluation.



At a time when AI profoundly impacts all aspects of life, there is an urgent need to better understand and guide AI's development, adoption and deployment, and to harness its revolutionary capabilities to improve our understanding of the world. Social science research is essential to meeting this need. Through our internal seed funding, we are pleased to support projects which will help maximise the benefits of AI innovation in an equitable and ethical way."

Professor Susana Mourato

Vice President and Pro Vice-Chancellor for Research and Innovation, LSE

Research highlights

GENIAL

Dr Jon Cardoso-Silva, DSI;
Dr Marcos Barreto, Department
of Statistics

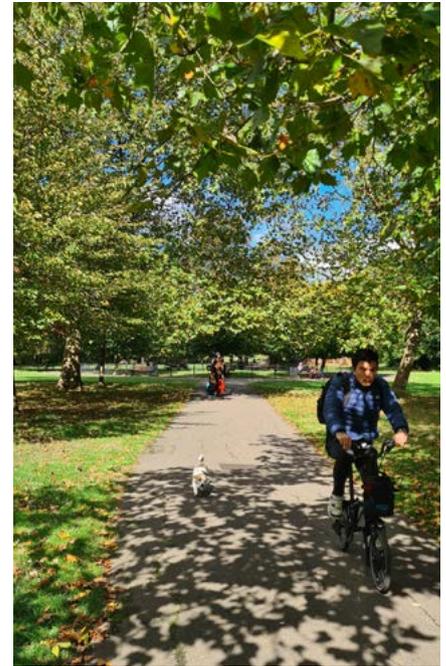
In higher education, students are increasingly using generative AI tools, such as ChatGPT, Microsoft Copilot, GitHub Copilot, Gemini and others, to aid their learning experience. These tools provide personalised, instant help with various tasks, such as summarising literature, brainstorming ideas, and writing code and text, although some limitations in transparency and accuracy might exist. Hosted by the DSI and led by Dr Jon Cardoso-Silva and Dr Marcos Barreto, the GENIAL research project explores the practical applications of AI tools, and aims to understand how they might specifically enhance programming skills and critical thinking. The project is designed to fill a knowledge gap and obtain insights that could provide valuable direction in how we approach education in light of these new technologies.

(De)constructing health and wellbeing through data

Dr Alexandra Gomes, LSE Cities

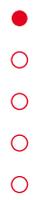
Launched in April 2022, this three-year analytical project explores data interdependencies and socio-spatial connections to understand how the physical environment impacts health and wellbeing.

The project is the result of a collaborative effort between the DSI, LSE Cities, Ordnance Survey and the NHS (through NHS England Data and Analytics team). It set out to explore the different dimensions necessary to improve the mapping of spatial health inequalities in England in an integrated manner. The project started by exploring the intricacies of health and wellbeing determinants, mapping them conceptually, and developing a classification to capture the range and scale of health determinants and their factors. The second phase includes the exploration of a health-related issue, air pollution, and the investigation of the complexity and challenges behind the selection of air pollution interventions to improve air quality in London.



Alexandra Gomes is working with residents in Haringey to build a “neighbourhood value index”.

Ultimately, this project aims to identify gaps in spatial data and suggest areas for improvement. By doing so, it seeks to provide valuable support to academics, practitioners, designers and policymakers in their respective fields.



Replacing experts with LLMs when analysing political text

Professor Kenneth Benoit,
Dr Conor Laver, Professor Michael Laver, Jinshuai Ma, and Professor Scott DiMarchi

This project explores the use of large language models (LLMs), such as GPT, Gemini, and Claude, to analyse political texts and estimate party policy positions. The LLMs replicate tasks typically performed by human experts using expert surveys and crowdsourcing. The study compares LLM-generated estimates with expert survey data, particularly from the Chapel Hill Expert Survey (CHES), to assess the validity of LLM results. The findings compare assessments across key dimensions such as taxation, immigration, the environment and social policies, and demonstrate that LLMs can reliably replicate expert judgments, significantly reducing the need for human intervention in large-scale political text analysis. Unlike traditional methods, which are limited by cost and scalability, this method not only makes political text analysis more accessible but also enables researchers to analyse large datasets in multiple languages.

Eye, robot: a generative AI approach to measuring subjective assessments from street level images at scale

Dr Melissa Sands, Department of Government

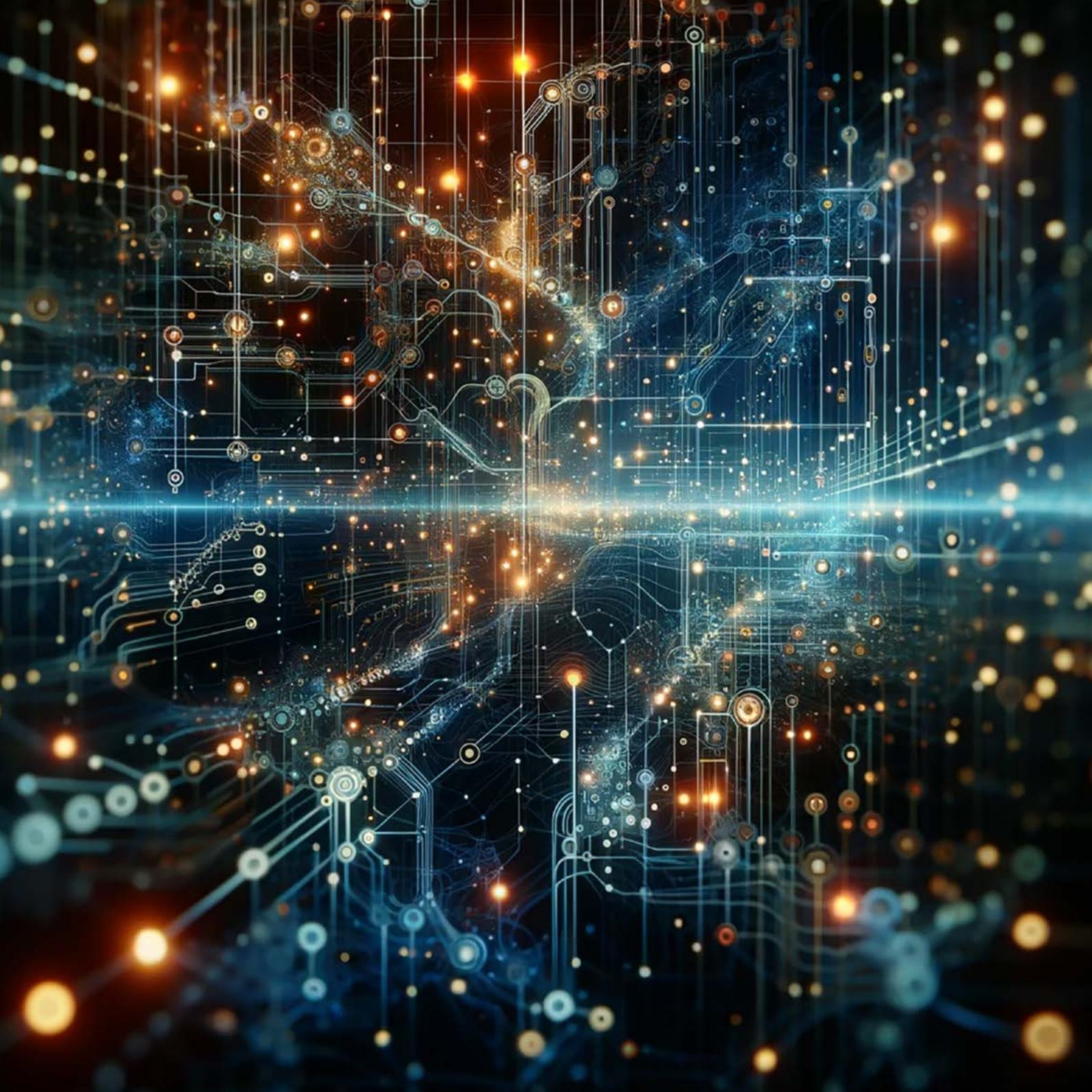
This project works to develop a new method for measuring subjective perceptions at scale using innovations in both crowd-sourced image data and transformer-based computer vision technology. The team aims to uncover the relationships between perceived neighbourhood conditions and political outcomes, potentially offering new insights into how urban environments shape politics. The approach relies on a novel dataset of 360-degree street-level images from Mapillary, a non-proprietary crowd-sourced alternative to Google Street View. The team uses OpenAI's GPT-4 to label images for subjective concepts like disorder, safety and perceived wealth, from unlabelled images of neighbourhoods. The team compares GPT's labels to samples of crowd-sourced labels, as well as objective data at the image level and geographic data on crime reports and socioeconomic characteristics.

Advancing health equity and policy efficacy through data-driven spatial analysis in Westminster

Dr Vanessa Galeano-Duque, DSI

The DSI worked in partnership with Westminster City Council's Urban Lab to develop a pilot toolkit to simulate the impact of urban interventions on health outcomes in the City of Westminster. The project sought to increase the council's capacity to assess the impact of place-shaping policy interventions, under the North Paddington Programme, on health disparities, with a specific focus on cardiovascular disease incidence, prevalence and mortality.







Understanding pedagogical approaches for large language models (LLMs) in programming education

Dr Marcos Barreto, Department of Statistics

This research explores how LLMs can be used as a programming aid in quantitative courses. The project sets out to identify current approaches regarding the use of closed LLM-based tools, such as ChatGPT, GitHub Copilot and Bard (now Gemini), in programming tasks, based on literature review and educational case studies. We hope to assess the feasibility and efficacy of incipient open LLMs, such as StarCoder, as candidate tools for the design of teaching materials related to programming education. In addition, we will test different LLMs' capabilities, such as (a) text to code; (b) code to code; and (c) code to text. The research will help to design teaching resources and encourage discussion around practices involving AI-assisted coding tools.

Selected publications

“Programmed differently? Testing for gender differences in Python programming style and quality on GitHub”

Dr Siân Brooke, Department of Methodology

Approaching code as a form of communication, Dr Siân Brooke conducts a novel empirical study of gender differences in Python programming on GitHub. Based on 1,728 open-source projects, Dr Brooke asks if there is a gender difference in the quality and style of Python code measured in adherence to the PEP 8 guidelines. She found significant gender differences in structure and how Python files are organised. While there is gendered variation in programming style, there is no evidence of gender difference in code quality.

“Human–machine social systems”

Dr Milena Tsvetkova, Department of Methodology

From fake social media accounts and generative AI chatbots to financial trading algorithms and self-driving vehicles, robots, bots and algorithms are proliferating, and permeating our communication channels, social interactions, economic transactions and transportation arteries. Networks of multiple interdependent and interacting humans and autonomous machines constitute complex social systems, where the collective outcomes cannot be deduced from either human or machine behaviour alone. Under this paradigm, Dr Tsvetkova and her collaborators reviewed recent research from across a range of disciplines to identify general dynamics and patterns. To ensure more robust and resilient human–machine communities, researchers should study them using complex-system methods, engineers should explicitly design AI for human–machine and machine–machine interactions, and regulators should govern the ecological diversity and social co-evolution of humans and machines.

A Theory of Everyone: Who we are, how we got here, and where we're going

**Dr Michael Muthukrishna,
Department of Psychological
and Behavioural Science**

Dr Michael Muthukrishna uses a two-pronged methodological approach in his research, combining mathematical and computational modelling (evolutionary models, social network models, etc.), and experimental and data science methods from psychology and economics. He uses the theory of human behaviour that emerges from this approach to tackle a variety of related topics, including innovation, corruption, the rise of large-scale cooperation and the navigation of cross-cultural differences. His 2023 book, *A Theory of Everyone*, attempts to provide solutions for how to solve the most pressing problems of our collective future, such as polarisation, inequality, the “great stagnation” in productivity, and the energy crisis.

“The effects of COVID-19 infection on opposition to COVID-19 policies: evidence from the U.S. Congress”

**Dr Zachary Dickson, Department
of Government**

Politicians’ scepticism in the face of scientific consensus on issues such as pandemics and climate change poses a serious threat to public health and liberal democracy. In an article co-authored with T Murat Yildirim, Dr Dickson combines LLMs, social media data and causal inference methods to show that members of the US Congress respond to COVID-19 infection by shifting their rhetoric and reducing their opposition to COVID-19 containment measures. The article has been accepted for publication in *Political Communication* and is now available open access online.

“Inoculation hesitancy: an exploration of challenges in scaling inoculation theory”

**Dr Jens Koed Madsen,
Department of Psychological
and Behavioural Science**

Inoculation theory research offers a promising psychological “vaccination” against misinformation. But are people willing to take it? Expanding on the inoculation metaphor, we introduce the concept of “inoculation hesitancy” as a framework for exploring reluctance to engage with misinformation interventions.

Results suggest that participants are significantly less willing to accept inoculations from low-trust sources and less likely to accept inoculations from partisan sources that are antithetical to their own political beliefs. Overall, this research identifies motivational obstacles in reaching herd immunity with inoculation theory, guiding future development of inoculation interventions.

Investing in research

The DSI's mission is to bolster data science and AI research at LSE, and we were delighted to support research through targeted funding opportunities.

Managed centrally by the Research and Innovation division, the Research and Impact Support Fund facilitates world-class research and knowledge exchange activities by LSE academic, research and policy staff. The 2023/24 fund included a stream for projects with a focus on AI. DSI Director Professor Ken Benoit took part in the selection panel, and 16 projects from the academic and PhD community were awarded funding, including several from our own DSI Affiliates.

An egalitarian future of work Dr Kate Vredenburg, Department of Philosophy, Logic and Scientific Method

The aim of this project is to articulate an egalitarian vision for how the next generation of AI tools should change work. Drawing on philosophical theories of justice, the research team will develop egalitarian moral principles for how AI should be deployed to respect the equal rights and interests of people.

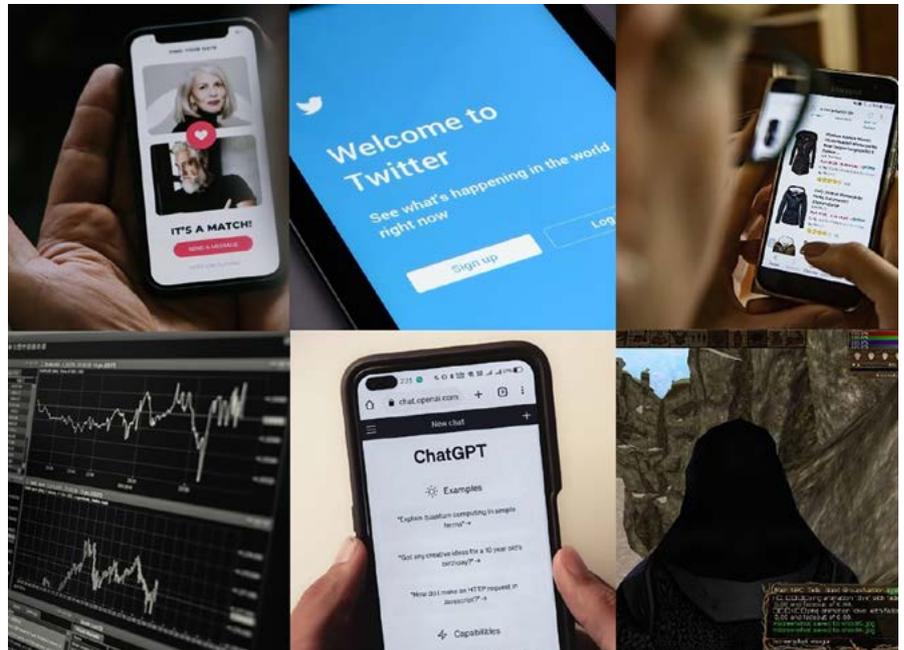
Data-driven streetscapes Dr Melissa Sands, Department of Government

This project aims to investigate the multifaceted nature of neighbourhood context and its impact on political behaviour by integrating physical features of the built environment with subjective perceptions, solicited from humans and AI.

Field experiments of social influence and contagion with AI-assisted bots

Dr Milena Tsvetkova, Department of Methodology

How does AI influence human behaviour? This project aims to study social influence and contagion from autonomous artificial agents onto human users in realistic online settings.



Field experiments of social influence and contagion with AI-assisted bots, Dr Milena Tsvetkova



AI can confuse you! (cont.)

When we read this in Python, the Population comes in as text instead of a number.

If you try to convert it:

```
1 df['population'].astype(int)
```

You get an error:

```
1 ValueError: Invalid literal for int()
2 with base 10: '217,732,000'
```

If you go on ChatGPT, you get:

```
1 df['population'].str.replace(',','').astype(int)
```

THIS IS WRONG!

The AI suggested solution ignores the problem with the comma (,) whereas, in fact, the problem is with the space character between the first number. The pandas library can handle a comma or thousands separator but it cannot parse a string that has two numbers separated by a space.

The AI is not a god.

EDUCATION



The DSI forms a nexus for teaching and learning in data science and AI at LSE. It is essential that social scientists understand how best to harness the power of data and AI technologies to enhance their work. The DSI translates the latest developments in research to equip students with the skills and techniques necessary to navigate the constantly evolving digital world.

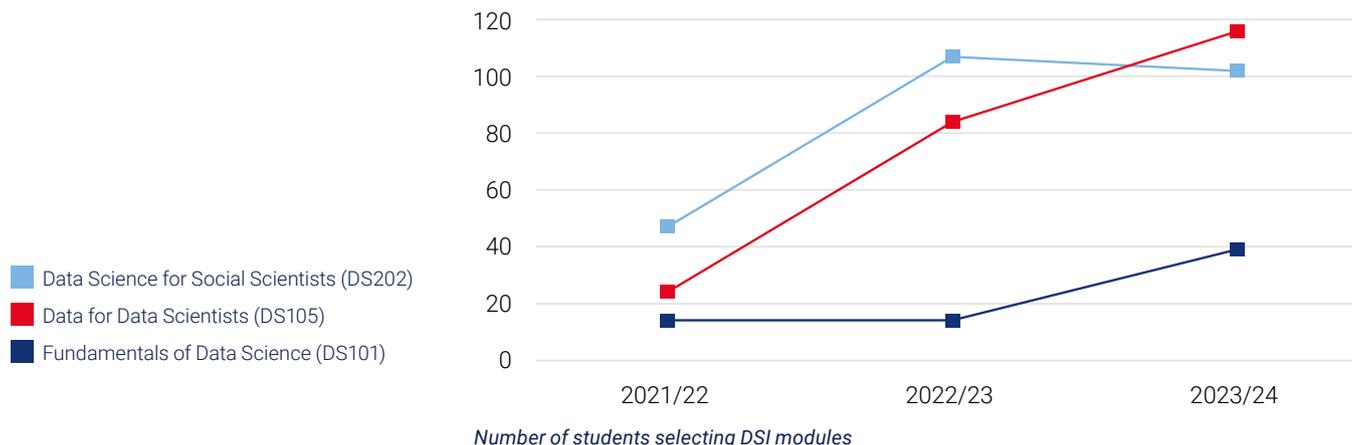
The DSI is taking the lead in embracing AI in higher education. In the last year, our teaching included the use of generative AI in the curriculum of DSI modules as a tool to aid learning, supported by research to assess their effectiveness (see p.8 for information on the GENIAL research project). In addition, our academic team is actively working with LSE working groups and committees to provide guidance on the School's approach to AI in teaching, assessment and evaluation.

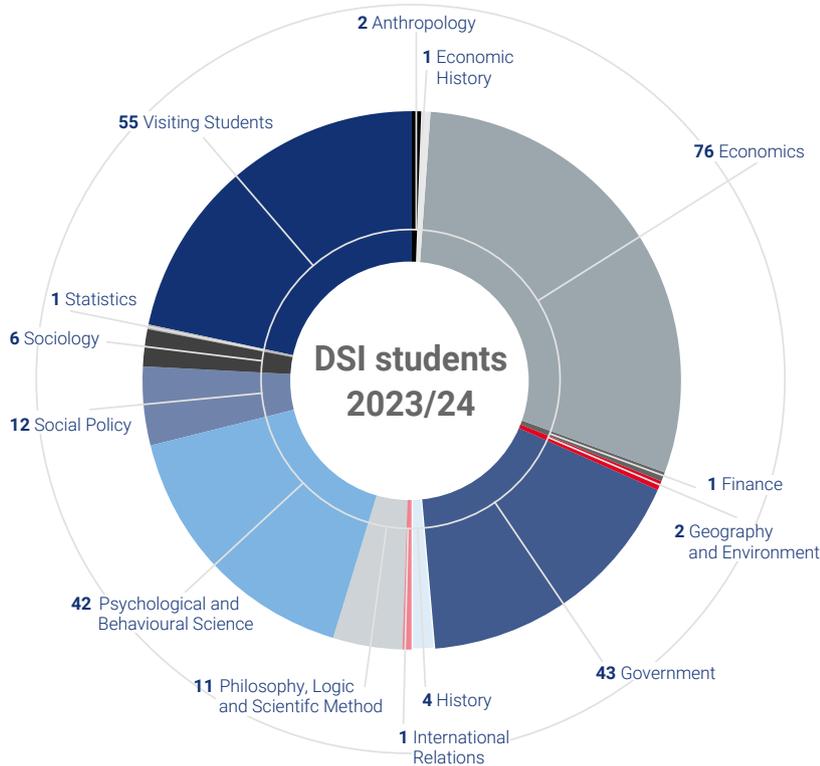
Undergraduate teaching

During the 2023/24 academic year, the DSI teaching team delivered three undergraduate modules, supported by guest teachers who drew on a wide range of academic and industry experience. Courses offered introductory and advanced understanding of key concepts in data science and applied machine learning. They also equipped students with the skills to collect, transform and manage data.

In response to student feedback, we developed a new module, "Advanced Data Manipulation" (DS205). The course emphasises practical learning using Python and provides live coding demonstrations during all lectures and seminars.

Demand for data science modules is increasing year on year, with 257 students from 13 departments taking them this year.





Numbers of students studying DSI modules by LSE department

Student experience

Our students benefit from fantastic opportunities beyond the classroom. This year, the DSI organised industry visits to the Bank of England and Ekimetrics and brought specialists from Transport for London, Amazon and The LEGO Group to LSE to speak about careers in data science.

In April 2024, two DSI undergraduate students, Terry Zhou and Nikolai Semikhatov, presented their research on parliamentary rebellion at the British Conference of Undergraduate Research 2024, which was hosted at LSE this year. They each spoke for 15 minutes, presenting their original research around data and democracy that they had undertaken as part of an extracurricular research internship at the DSI.



The conference provided us with an excellent platform to showcase our work and learn about the intriguing research being conducted by students from various universities. Moving forward, we plan to refine our model not only to improve its predictive accuracy regarding parliamentary rebellion, but also to enable it to explain its decisions and shed light on the underlying motives driving MPs' rebellious actions."

Terry Zhou, BSc Politics and Data Science student





Data science teaching across LSE

The DSI teaching team continued its support of other areas of teaching and learning across the School. They delivered training sessions in collaboration with the Digital Skills Lab, contributed to the School-wide LSE100 course about how to use AI, and worked closely with the Eden Centre around policies and guidance for the use of AI in education and teaching.

Degree programmes

Undergraduate and graduate degree programmes in data science, jointly developed with departments across the School, continue to grow and flourish, led by academics affiliated with the DSI. This year saw the launch of a Master's in Public Administration (MPA) in Data Science for Public Policy, delivered by the LSE's School of Public Policy.

Undergraduate:

- BSc in Data Science – Department of Statistics
- BSc in Mathematics with Data Science – Department of Mathematics
- BSc in Politics and Data Science – Department of Government

Postgraduate:

- MSc in Data Science – Department of Statistics
- MSc in Applied Social Data Science – Department of Methodology
- MSc in Media and Communications (Data and Society) – Department of Media and Communications
- MSc in Operations Research and Analytics – Department of Mathematics
- MSc in Health Data Science – Department of Health Policy and Department of Statistics
- MSc in Geographic Data Science – Department of Geography and Environment
- MPA in Data Science for Public Policy – School of Public Policy



PhD research

The DSI also offers a nexus for PhD students engaged with data science research, offering opportunities for studentships and visiting students. Our PhD students operate at the highest academic level, and benefit from being at the forefront of research in their chosen field. They become experienced in creative problem-solving and critical inquiry, developing essential negotiation and communication skills. LSE offers a doctoral studentship for PhD study affiliated with the DSI. In 2023, it was awarded to Vincent Chung from the Department of Geography and Environment.

Vincent Chung's PhD research centres on the exploration of virtual reality (VR) applications within stated preference methods, with the aim of mitigating inherent challenges associated with these research methodologies. He aims to integrate virtual reality into the stated preference framework to create more genuine and captivating scenarios for environmental goods in valuation, thereby reducing hypothetical bias and elevating the accuracy of the findings.

Wendy Wang is a PhD candidate in Social Research Methods supervised by Professor Ken Benoit and Dr Milena Tsvetkova, in the Department of Methodology. Her research focuses on exploring and expanding the source of data and the corresponding methodologies for social science studies, especially psychological research. Specifically, she looks into the availability and completeness of social media data (text, image, social network, etc.) and the suitable analytical techniques (machine learning, neural networks, network analysis, etc.) to use to eventually understand human behaviours and the psychological mechanisms that drive those behaviours, as well as the change in such observations over time. She is particularly interested in opinion shift and its influential factors.

Visiting research students

In addition, the DSI welcomes a regular stream of visiting research students in data science. In 2023/24, this included:

Anastasiia Menshikova, a visiting PhD student from the Institute for Analytical Sociology, Linköping University, Sweden, joined us in the Winter Term 2024 and presented her work to fellow PhD students.

Nader Hotait, PhD candidate in Sociology, University of Mannheim, Germany, visited the DSI in the Autumn Term 2023.





Executive education

The Data Science and AI for Executives programme allows professionals from a range of backgrounds to leverage data science and AI to make informed, intelligent decisions. This fast-paced, intensive one-week programme runs twice a year and is in high demand.

In addition, the School offers a range of online training programmes, from a three-week Masterclass in the Ethics of AI, to six- to eight-week certificate courses (including Data: Law, Policy and Regulation; and Data Analysis for Management), to a full online degree – a BSc in Data Science and Business Analytics.

LSE Summer School

During the summer break, DSI academics teach as part of the oversubscribed LSE Summer School. They introduce more than 100 UK and international students to data science and AI through courses including “The Ethics of Data and Artificial Intelligence”, “Introduction to Data Science and Machine Learning” and “Data Engineering for the Social World”.





DSI²

A collaboration between
Science Institute
London and
Economics Institute

ENGAGEMENT



The DSI continues to develop impactful partnerships and to convene expertise from industry, academia and policy to discuss the transformational role of data science and AI in shaping the world's political, economic and social future. It organises public, research and student events, and shares news about all things AI and data science taking place at LSE through its website, social media platforms and newsletters.

Partnerships

Turing University Network

LSE's membership of The Alan Turing Institute's network of universities is managed by the DSI. The network enables academics and research students from across LSE to take advantage of a wide range of opportunities, from workshops and events to collaborative projects and funding.

This year two LSE PhD students have been awarded PhD Enrichment scheme placements at The Alan Turing Institute. Goudong Ju from the Department of Social Policy and Ed Plumb from the Department of Mathematics will both receive funding and spend time at The Alan Turing Institute, enabling them to enhance and broaden their research within the Turing community.

DSI Squared

The DSI continued its collaboration with the Data Science Institute at Imperial College London in the form of the DSI Squared partnership. The partnership is designed to connect LSE's social science researchers with the science, technology, engineering and mathematics (STEM) researchers from Imperial. This year, we brought together researchers from the two institutions to discuss Unsolved Problems in Data Science through a seminar series.

In May 2024, we co-hosted the second Generative AI and the Knowledge Economy symposium. The two-day event convened experts from industry, government and academia to share research and thinking, and to discuss

how to make generative AI work well by tackling effectiveness, safety and integrity. Discussions included: the impact of generative AI on health and healthcare; the role AI could play in the transition to net zero; and how AI is changing education.

CIVICA Data Science Seminar Series

As part of the established CIVICA European University of Social Sciences, a partnership of European universities, the DSI collaborates on data science research activities with other members of the network. We co-host the fortnightly CIVICA Data Science Seminar Series, which aims to foster a community of researchers, practitioners and policymakers working to address complex societal challenges. The series showcases research around the use of innovative methodological and data-driven approaches, which draw from machine learning and from quantitative methods in biology, sociology, political sciences, economics and physics, among other disciplines.

Industry and public sector partnerships

The DSI aims to develop partnerships that support our research and teaching priorities. We connect with industry and public sector partners on three key areas:

- inspiring the next generation of leaders by sharing applied data science use cases with our students, through talks, industry visits and events
- supporting our research endeavours by funding research and collaborating on research projects
- providing experiential learning opportunities to students through capstone projects.

Key partnership case studies can be found in the Research and Education sections.

Student partnerships

The DSI supports the activities of the LSE Students' Union Data Science Society, a student-run initiative dedicated to promoting and educating students about data science. This year, the DSI's support enabled the society to deliver bi-weekly events and workshops ranging from basic programming training to talks from industry specialists. We supported their annual Data Science Week, including a 24-hour hackathon in collaboration with University College London, as well as their termly data science projects. DSI Director Professor Ken Benoit joined the judging panel, providing technical feedback and selecting project prize winners.



The Data Science Society allows students to learn without the constraints of a university grading system, encouraging creative freedom and exploration. It supports them to learn and improve their data science skills through solving real-world problems. Members stated that being part of the society helped them when applying for both internships and other work opportunities.”

Evelyne Ong and James Vallejo

LSE Students' Union Data Science Society Committee Members



Events

This academic year we delivered a rich programme of events, from large public lectures and book launches to research seminars sharing new findings. We organised a series of student events introducing them to data science career opportunities from industry experts. We organised the final CIVICA hackathon, focusing on the multiple crises confronting European societies and political systems. We convened our Affiliates to network and share their

research, both within and beyond the LSE community. We showcased the work of LSE academics and brought together experts from across the globe to talk about the most pressing issues being faced by the world in relation to AI.

Speakers have included: **Sue Attewell**, Head of AI and Co-Design, JISC; **Anna Dijkstra**, Director of Innovation for UK Healthcare and Life Sciences, Microsoft; **Chandrima Ganguly**, Data and AI Ethicist, Lloyds Banking Group; **Dr Laura Gilbert**, Director of Data

Science, 10 Downing Street; **Salman Khan**, founder and CEO of Khan Academy; **Susanne Knorr**, Head of Place Intelligence, Connected Kerb; **Professor Neil Lawrence**, inaugural DeepMind Professor of Machine Learning, University of Cambridge; **Nicklas Lundblad**, Head of Public Policy, Google DeepMind; **Madhumita Murgia**, Artificial Intelligence Editor, *Financial Times*; **Sadiqah Musa**, Senior Analytics Manager, Trustpilot, and founder/CEO, Black in Data.





Event highlights

Public events

In March 2024, we hosted Madhumita Murgia, AI Editor for the *Financial Times*, who discussed her new book, *Code Dependent*, with DSI Director Professor Ken Benoit in front of a large audience. In June, to a packed auditorium, Salman Khan, founder of Khan Academy, spoke about his new book, *Brave New Words*, with DSI Assistant Professor Dr Jon Cardoso-Silva. They talked about the ins and outs of cutting-edge AI tools and how they will forever change the way we learn and teach.

Research events

This year we hosted 14 research events, including online and in-person seminars, symposia and panel discussions, sharing the work of more than 50 researchers from LSE, and other national and international institutions.

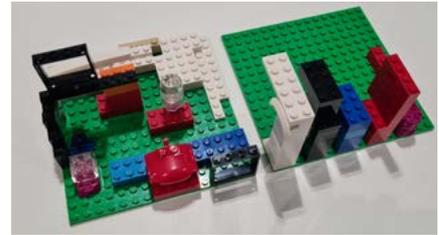
Student events

In October 2023, we took 20 students to the Bank of England to meet teams of data scientists working there. The group were introduced to the way in which analytical tools, AI and machine learning are utilised by the Bank. We have brought in speakers from Transport for London, The LEGO Group and Amazon to talk about real-world applications of data science.

Hackathons

In December 2023, the DSI held the last in a series of four CIVICA hackathons. These research-related hackathons set out to bring together various scientific and professional communities to work on a common project, aiming to share expertise and encourage learning through creation. This final hackathon focused on the multiple crises that confront European societies and political systems.

For a full list of DSI events this year, see the Appendix.



...ers in Data Science

What data science means to me

...ary field – combines maths, statistics, engineering, machine learning, and many
ns...

...creasingly popular career choice across many industries

...ans in practise varies within and between companies

...ves applying these concepts to uncover actionable insights in an organisation

...sion-making

...ing opportunities!



Blogs

Throughout the year, LSE Blogs has published many articles with a focus on AI. These have been written by a wide range of authors, including DSI Affiliates and staff and DSI event speakers.

Dr Miqdad Asaria, Assistant Professor in the Department of Health Policy, wrote a blog discussing how AI has the potential to revolutionise the NHS by personalising treatments, accelerating drug development and reducing administrative burdens. He discussed how it can enhance preventive healthcare, improve patient engagement and streamline processes, thus boosting productivity.

Dr Alison Powell, Associate Professor in the Department of Media and Communications, published "AI is expensive". The blog highlights the costs of AI investment in terms of institutional fragility, environmental damage and increasing inequality.

Dr Divya Srivastava, from the Department of Health Policy, asked "What role should AI play in global health?" She recognised that AI has many potential applications in healthcare and highlighted that, as policymakers grapple with the question of how to regulate AI health solutions, there is a clear need for international collaboration founded on robust research.

Communications

We continue to grow our audiences across many different channels. We share news about the work undertaken by DSI researchers and Affiliates from across the School, with a broad range of audiences both within and beyond the academic and policy world. We promote opportunities for study and share information about events that investigate all aspects of data science, AI and machine learning.

Since the start of the academic year, our social media following has increased dramatically, with our following on LinkedIn growing from 1,500+ to over 3,500. YouTube subscribers have doubled to 500+ and our followers on X have increased to more than 5,250. Over the next year, we will capitalise on this growth to make the DSI the go-to place for information about new data science and AI research in the social sciences.

We have developed our website with a new focus on AI, spotlighting research, events, blogs and education from across LSE. This includes not only the various applications of these technologies to expand social scientific knowledge, but also issues surrounding the responsible, safe and ethical use of AI.

 3,500+

 500+

 5,250+

We continue to share news and event invitations with our growing network, both within and beyond the LSE community, through our monthly newsletter, which is filled with information about all things data science and AI at LSE.



THE DSI COMMUNITY



Academic staff

Professor Ken Benoit

Director, Data Science Institute, and
Professor of Computational Social Science

Dr Jon Cardoso-Silva

Assistant Professor (Education)

Dr Ghita Berrada

Assistant Professor (Education)

Sara Luxmoore

Research Officer

Jinshuai Ma

Research Officer in Data Science

Professor Zoltán Szabó

Turing University Network Liaison
(Academic)

Professional services staff

Jill Beattie

Institute Manager

Emily Cruz

Communications and Events Manager
(maternity cover)

Ali Eggleton

Institute Administrator

Ellie Finlay

Events Officer

Lou Flandrin

Business Development Manager

Kevin Kittoe

Teaching and Assessment Administrator

Ginny Pavey

Executive Assistant to the Director
and Turing University Network Liaison
(Administrative)

Johanna Tate

Communications and Events Manager
(maternity leave)

Guest teachers

Dr Stuart Bramwell

Postdoctoral Researcher, Royal Holloway,
University of London

Tabtim Duenger

Senior Data Scientist, *The Economist*

Riya Chhikara

Data Scientist, *The Economist*

Alexander Soldatkin

PhD Candidate, University of Oxford

Andreas Stöffelbauer

Data Scientist, Microsoft

Hosted PhD students

*Recipients of the LSE Data Science
PhD studentship*

Vincent Chung

PhD candidate in Geography, Department
of Geography and Environment

Wendy Wang

PhD candidate in Social Research
Methods, Department of Methodology

DSI Affiliates

Professor Martin Anthony

Professor, Department of Mathematics

Dr Miqdad Asaria

Assistant Professor, Department of Health Policy

Dr Marcos Barreto

Assistant Professor (Education) and KEI Strategic Lead, Department of Statistics

Dr Tuğkan Batu

Assistant Professor, Department of Mathematics

Dr Liam Beiser-McGrath

Assistant Professor, Department of Social Policy

Dr Michael Blackwell

Associate Professor of Tax Law, LSE Law School (to May 2024)

Dr Chris Blunt

Associate Professor (Education) and Co-Director of LSE100

Dr Siân Brooke

LSE Fellow in Computational Social Science / Leverhulme Early Career Research Fellowship, Department of Methodology

Professor Umut Cetin

Professor of Statistics, Department of Statistics

Dr Yining Chen

Associate Professor, Department of Statistics

Dr Yunxiao Chen

Associate Professor, Department of Statistics

Dr Neil Cummins

Professor of Economic History, Department of Economic History

Dr Zachary Dickson

Postdoctoral Research Fellow, Department of Government

Professor Alexander Evans

Programme Director, MPA in Data Science for Public Policy, School of Public Policy

Dr Giulia Ferrari

Research Fellow, Centre for Women, Peace and Security

Dr Florian Foos

Assistant Professor in Political Behaviour, Department of Government

Dr Michael Ganslmeier

LSE Fellow, Department of Methodology

Dr Patrick Gildersleve

LSE Fellow in Computational Science, Department of Methodology

Dr Alexandra Gomes

Research Fellow, LSE Cities

Dr Anushri Gupta

Research Officer, Department of Management

Dr Daniel de Kadt

Assistant Professor, Department of Methodology

Dr Kostas Kalogeropoulos

Associate Professor, Department of Statistics

Dr Casey Kearney

Assistant Professor (Education), School of Public Policy

Dr Marion Lieutaud

Leverhulme Early-Career Research Fellow, Department of Methodology

Dr Joshua Loftus

Assistant Professor, Department of Statistics

Dr Jens Koed Madsen

Assistant Professor, Department of Psychological and Behavioural Science

**Dr Blake Miller**

Assistant Professor, Department of Methodology

Andrew Moles

Learning Developer, Data Science Tools, Digital Skills Lab

Dr Michael Muthukrishna

Associate Professor of Economic Psychology, Department of Psychological and Behavioural Science

Dr Marie Oldfield

Senior Lecturer in Practice, Department of Mathematics

Dr Francesca Panero

Assistant Professor, Department of Statistics

Dr Katerina Papadaki

Associate Professor, Department of Mathematics

Dr Jean-Christophe Plantin

Associate Professor, Department of Media and Communications

Dr Mathias Poertner

Assistant Professor in Political Science, Department of Government

Dr Alison Powell

Associate Professor, Department of Media and Communications

Dr Eleanor Power

Assistant Professor, Department of Methodology

Dr Xinghao Qiao

Assistant Professor, Department of Statistics

Dr Thomas Robinson

Assistant Professor, Department of Methodology

Professor Johannes Ruf

Professor, Department of Mathematics

Dr Dorottya Sallai

Assistant Professor of Management, Department of Management

Dr Melissa Sands

Assistant Professor of Politics and Data Science, Department of Government

Dr Chengchun Shi

Associate Professor, Department of Statistics

Dr Rachel Spicer

Postdoctoral Fellow, Department of Psychological and Behavioural Science

Dr Divya Srivastava

Guest Teacher, Department of Health Policy

Professor Zoltán Szabó

Professor of Data Science, Department of Statistics

Dr Milena Tsvetkova

Associate Professor of Computational Social Science, Department of Methodology

Professor László Végh

Professor, Department of Mathematics

Dr Will Venters

Associate Professor of Information Systems, Department of Management

Dr Kate Vredenburg

Assistant Professor, Department of Philosophy, Logic and Scientific Method

Dr Tengyao Wang

Professor, Department of Statistics

Dr Yan Wang

Research Fellow, School of Public Policy

Professor Henry Wynn

Emeritus Professor of Statistics, Department of Statistics

DSI governance

Management Committee

Professor Ken Benoit

Director, Data Science Institute

Professor Michael Laver

Visiting Professor, Department of Methodology

Professor Susana Mourato

Vice President and Pro-Vice Chancellor for Research and Innovation

Professor Olmo Silva

Professor of Real Estate Economics and Finance and Director of Graduate Studies, Department of Geography and Environment

Professor Bernhard von Stengel

Professor, Department of Mathematics

Professor Patrick Sturgis

Professor of Quantitative Social Science, Department of Methodology

Professor Zoltán Szabó

Professor of Data Science, Department of Statistics

Dr Kate Vredenburg

Assistant Professor, Department of Philosophy, Logic and Scientific Method

Data Science Education Forum

Professor Peter Allen

Professor, Department of Mathematics

Professor Ken Benoit

Director, Data Science Institute

Jeni Brown

Head of LSE Digital Skills Lab (ex officio)

Dr Claire Gordon

Head of LSE Eden Centre for Education Enhancement (ex officio)

Professor Emma McCoy

Vice President and Pro-Vice Chancellor for Education (ex officio)

Professor Irini Moustaki

Professor and Deputy Head of Department (Teaching), Department of Statistics

Dr Melissa Sands

Assistant Professor of Politics and Data Science, Department of Government

Dr Thomas Smith

Associate Professor in Environmental Geography, Department of Geography and Environment

Dr Milena Tsvetkova

Associate Professor of Computational Social Science, Department of Methodology

Dr Yang Yang

Senior Academic Developer, LSE Eden Centre for Education Enhancement

Advisory Board

Yezdaan Baber

Chief Executive Officer, Belvedere Trading

Professor Sir Tim Besley

School Professor of Economics and Political Science and W. Arthur Lewis Professor of Development Economics, Department of Economics, LSE

Professor Julia Black PBA

Professor of Law, LSE Law School, and President of the British Academy

Monisha Kaltenborn

LSE alumna (LSE Law School)

Dr Mark Thomas Kennedy

Associate Professor, Business School, Imperial College London, and Director, Data Science Institute, Imperial College London

Professor Helen Margetts OBE FBA

Professor of Society and the Internet, University of Oxford, and Director of the Public Policy Programme, The Alan Turing Institute

Dr Angela Spatharou

Senior Partner and EMEA Leader, Healthcare and Life Sciences, IBM Consulting, Independent Member, LSE Council



Professor Arthur Spirling

Class of 1987 Professor of Politics and Director of Graduate Studies, Department of Politics, Princeton University, and President, Society for Political Methodology

Simone Verri

Partner, Global Financing Group, Goldman Sachs

Chenning Zhao

Chief Strategy Officer, Wiz Holdings Pte Ltd, and Co-founder and former Managing Director, FountainVest Partners

Visiting appointments

Dr Hadi Alagha

Senior Teaching Fellow in Patient Safety and Health Policy at the Institute of Global Health Innovation, Imperial College London
Visiting Senior Fellow

Dr Nicole Baerg

Senior Lecturer, Department of Government, University of Essex
Visiting Senior Fellow

John Burn-Murdoch

Chief Data Reporter, *Financial Times*
Visiting Senior Fellow

Dr Gökhan Çiflikli

Director of Data and AI, Superside
Visiting Senior Fellow

Dr James Hamp

Director and Head of FX Data Strategy and Analytics, Citi
Visiting Fellow

Dr Ajay Kumar

Associate Professor of Business Analytics, Emlyon Business School
Visiting Senior Fellow

Dr Tom Paskhalis

Assistant Professor in Political Science and Data Science, Department of Political Science, Trinity College Dublin
Visiting Fellow

Professor Leonard Smith

Professor, Bradley Department of Electrical and Computer Engineering, Virginia Tech
Visiting Professor

Dr Miriam Sorace

Associate Professor in Comparative Politics, Department of Politics and International Relations, University of Reading
Visiting Senior Fellow

Dr Erica Thompson

Associate Professor of Modelling for Decision Making, Department of Science, Technology, Engineering and Public Policy, UCL
Visiting Senior Fellow

Dr Joshua Townsley

Senior UX Researcher, WhatsApp (Meta)
Visiting Fellow

Visiting research students

Nader Hotait (Autumn Term 2023)

PhD candidate in Sociology, University of Mannheim, Germany

Anastasiia Menshikova

(Winter Term 2024)

PhD candidate from the Institute for Analytical Sociology, Linköping University, Sweden



LSE Data Science Institute

The AI Revolution and Future of Data Science
Thursday 18 April 2024

AI and Ethics
Can we ensure the development of AI will be ethical?

Chair: Professor Andrew Marney, Academic Director of LSE's Law, Technology and Society research group and Academic Director of LSE Online
Panelists:
Alice Thomas, Technology Ethicist and Philosopher
Dr Chandrina Ganguly, Coe and AI Ethics at Lloyds Banking Group
Nilsa Oak, ILL Research Lead of Future of Life Institute

APPENDIX | DSI EVENTS

2023/24



Public events



Developing AI literacy in the classroom and beyond

07 March 2024

Dr Jillian Terry, Associate Professor (Education) and Co-Director of LSE100, LSE; **Cody Dodd**, AI Architect, Ethicist and Adviser; **Ashley Winton**, Fintech and Privacy Partner, Mishcon de Reya; **Cecilia Nunn**, Responsible AI Lead, Digital Catapult

Chair: **Professor Emma McCoy**, Vice President and Pro-Vice Chancellor for Education, LSE

This panel, hosted by LSE's DSI, Digital Skills Lab and LSE100, brought together academics, practitioners and industry leaders to discuss strategies and interventions for developing AI literacy in their organisations.

This event was part of the Turing AI UK Fringe.

What it means to be human in a world changed by AI

27 March 2024

Madhumita Murgia, AI Editor, *Financial Times*

Chair: **Professor Ken Benoit**, Director, Data Science Institute, LSE

In this public lecture, Madhumita Murgia discussed her new book *Code Dependent*, which sets out just how profoundly automated systems are reshaping our lives all over the world, and how AI is changing our relationships with institutions, communities and each other.

Generative AI and the knowledge economy

20–21 May 2024

Day 1 – held at Imperial College London (ICL)

Dr Ovidiu Serban, Research Fellow, ICL; **Dr Rossella Arcucci**, Director of Research, Data Science Institute, ICL; **Dr Wenjia Bai**, Associate Professor, Department of Computing and Department of Brain Sciences, ICL; **Professor Ron Chrisley**, Director of the Centre for Cognitive Science, University of Sussex; **Dr Kai Sun**, Institute Manager, Data Science Institute, ICL; **Shakeel Khan**, CEO, Validate AI; **David Shrier**, Professor of Practice, AI and Innovation, ICL; **Dr Yves-Alexandre de Montjoye**, Associate Professor, Applied Mathematics and Computer Science, ICL; **Professor Ken Benoit**, Director, Data Science Institute, LSE; **Professor Aldo Faisal**, Professor of AI and Neuroscience, ICL; **Dr Laura Gilbert**, Director of Data Science, 10 Downing Street; **Dr Mark Kennedy**, Director, Data Science Institute, ICL

Day 2 – held at LSE

Dr Miqdad Asaria, Assistant Professor, Department of Health Policy, LSE; **Anna Dijkstra**, Director of Innovation for UK Healthcare and Life Sciences, Microsoft; **Pritesh Mistry**, Fellow, Policy Team, The King's Fund; **Anna Studman**, Senior Researcher, Ada Lovelace Institute; **Dr Marion Dumas**, Assistant Professorial Research Fellow, Grantham Research Institute on Climate Change and the Environment, LSE; **Daniel Erasmus**, Creator of ClimateGPT; **Sam Young**, Practice Manager for Data Science and AI, Energy Systems Catapult; **Susanne Knorr**, Head of Place Intelligence, Connected Kerb; **Dr Jon Cardoso-Silva**, Assistant Professor (Education), Data Science Institute, LSE; **Dr Steven Watson**, Associate Professor, Faculty of Education, University of Cambridge; **Sue Attewell**, Head of AI and Co-Design, JISC; **Professor Mairead Pratschke**, Professor and Chair in Digital Education, University of Manchester; **Nicklas Lundblad**, Head of Public Policy, Google DeepMind; **Professor Ken Benoit**, Director, Data Science Institute, LSE

This was a two-day event delivered as part of the DSI Squared partnership with Imperial College London. Over two consecutive days, AI was discussed through a series of panels and keynote talks specifically around the themes of health, sustainability and education.

Brick by brick: crafting communities with data science and The LEGO Group

15 June 2024

The DSI and LSE Cities delivered a Family Day activity as part of the LSE Festival, in collaboration with The LEGO Group. Children were encouraged to build their dream neighbourhood out of LEGO and translate this into a LEGO bar chart, showing how data science can help us make sense of the world.

AI guardians: who holds power over our data?

15 June 2024

Professor Neil Lawrence, DeepMind Professor of Machine Learning, University of Cambridge; **Sadiqah Musa**, CEO, Black in Data; **Dr Chandrima Ganguly**, Data and AI Ethicist, Lloyds Banking Group

Chair: **Professor Ken Benoit**, Director, Data Science Institute, LSE

As the closing event for the LSE Festival, the panel explored ethics and bias in AI, and examined the need for diverse and inclusive data teams and decision-makers.

Brave new words: how AI will transform education

26 June 2024

Salman Khan, Founder and CEO of Khan Academy

Chair: **Dr Jon Cardoso-Silva**, Assistant Professor (Education), Data Science Institute, LSE

In this public event, Salman Khan discussed his new book on how artificial intelligence and generative technology will transform learning.

Research events



Resilience of urban socioeconomic networks to behavioural changes

02 October 2023

Dr Takahiro Yabe, Assistant Professor, Department of Technology Management and Innovation, New York University

This seminar was held in the visualisation studio at the DSI, where Takahiro Yabe presented his research using human mobility data to predict the network cascades of urban shocks.

Social and ethical implications of data scarcity and data drift in large language models (LLMs)

05 October 2023

Dr Blake Miller, Assistant Professor of Computational Social Science, Department of Methodology, LSE

As part of the Unsolved Problems in Data Science seminar series, hosted in collaboration with the Data Science Institute at Imperial College London, Dr Blake Miller presented his research highlighting the extent of behaviour change among content creators and the potential risks of LLMs becoming less reliable due to scarcity of non-synthetic data.

Following the information footprint of firms

24 November 2023

Dr Eddie Lee, Postdoctoral researcher, Complexity Science Hub Vienna

Co-hosted with the Department of Methodology, LSE

Postdoctoral researcher Eddie Lee shared his work about the role and use of information consumed by employees in millions of firms, undertaken at the Complexity Science Hub in Vienna.

CIVICA Research: collaborative hackathon on Europe revisited

04–05 December 2023

Professor Ken Benoit, Director, Data Science Institute, LSE; **Dr Mareike Kleine**, Associate Professor, European Institute, LSE; **Dr Floris de Witte**, Associate Professor, LSE Law School

This online hackathon encouraged teams of students from across Europe to analyse and create visualisations using the Manifesto Project Database. On the second day of this event, teams presented their work to a panel of judges and prizes were awarded to the winning teams.

Affiliate research showcase

12 December 2023

Dr Jon Cardoso-Silva, Assistant Professor (Education), Data Science Institute, LSE; **Dr Marcos Barreto**, Assistant Professor (Education), Department of Statistics, LSE; **Dr Michael Muthukrishna**, Associate Professor, Department of Psychological and Behavioural Science, LSE; **Dr Zachary Dickson**, Postdoctoral Research Fellow, Department of Government, LSE; **Dr Jens Koed Madsen**, Assistant Professor, Department of Psychological and Behavioural Science, LSE; **Dr Milena Tsvetkova**, Associate Professor of Computational Social Science, Department of Methodology, LSE

To mark the end of Autumn Term, DSI Affiliates based across the School presented their cutting-edge research in data science and the social sciences to a public audience.

Generative modelling of cardiac anatomy

18 January 2024

Dr Wenjia Bai, Associate Professor, Department of Computing and Department of Brain Sciences, Imperial College London

A seminar in the Unsolved Problems in Data Science series, hosted in collaboration with Imperial College London, Dr Bai discussed the question: how can we develop a personalised normative model for human anatomy?

Promoting and sustaining accountability in artificial intelligence applications

26 February 2024

Dr Leonardo Bezerra, Lecturer in Artificial Intelligence and Data Science, University of Stirling

Dr Bezerra delivered a research seminar outlining the effort and challenges regarding AI accountability and how these are being addressed by major AI players.

GENIAL open lecture: using AI chatbots for learning

27 February 2024

Dr Jon Cardoso-Silva, Assistant Professor (Education), Data Science Institute, LSE; **Dr Marcos Barreto**, Assistant Professor (Education), Department of Statistics, LSE; **Dr Francesca Panero**, Assistant Professor, Department of Statistics, LSE; **Dr Dorottya Sallai**, Assistant Professor, Department of Management, LSE; **Sara Luxmoore**, Research Officer, Data Science Institute, LSE

In this lecture, preliminary results from the GENIAL research project were presented, emphasising the impact of AI on learning.

Digital infrastructure and uptake of remote appointments in primary care in England: an empirical analysis

21 March 2024

Dr Divya Srivastava, Health Economist, Guest Teacher in the Department of Health Policy, LSE

A seminar in the Unsolved Problems in Data Science series, in which Divya Srivastava posed the question: how can we think about addressing the ongoing reduction in the total number of GP practices, which is a contributing factor to demanding work environments and a failure to meet patient needs?

Grassroots digital democracy: an alternative architecture for the digital realm

26 March 2024

Professor Ehud Shapiro, Weizmann Institute of Science

This research seminar reviewed the work of Professor Shapiro's group at Weizmann with colleagues around the world on a third, alternative architecture for the digital realm, termed grassroots digital democracy.

The AI revolution and future of data science

18 April 2024

Professor Andrew Murray, LSE Law School; **Alice Thwaite**, Head of Ethics, Omnigov; **Dr Chandrima Ganguly**, Data and AI Ethicist, Lloyds Banking Group; **Risto Uuk**, EU Research Lead, Future of Life Institute; **Professor Alastair Denniston**, NIHR Senior Investigator, Consultant Ophthalmologist and Honorary Professor, University of Birmingham; **Dr Rupa Sarkar**, Editor-in-Chief, The Lancet Digital Health; **Dr Xiaoxuan Liu**, Senior Clinician Scientist, University Hospitals Birmingham NHS Foundation Trust; **Dr Bilal A Mateen**, Executive Director, Digital Square; **Dr Aurélien Saussay**, Assistant Professorial Research Fellow, Grantham Institute, LSE; **Caroline Milliotte**, Global Sustainability Lead, Ekimetrics; **Dr Michal Nachmany**, CEO, Climate Policy Radar; **Dr Jennifer Prendki**, Head of AI Data, Google DeepMind

An invite-only event hosted with LSE Philanthropy and Global Engagement team (PAGE). Three panel discussions explored the themes of AI and ethics, sustainability and health.

The event concluded with a keynote speech from Google DeepMind's Dr Jennifer Prendki.

AI accreditation and how this is impacting regulation, practice and standards

01 May 2024

Dr Marie Oldfield, Senior Lecturer in Practice, Department of Mathematics, LSE

Chair: **Dr Ghita Berrada**, Assistant Professor (Education), Data Science Institute, LSE

As part of the CIVICA Data Science seminar series, Dr Oldfield explored the new AI global professional accreditation, established by the Institute of Science and Technology, and why it has been developed for technical and non-technical professionals.

Beveridge 2.0: AI and data science for public policy symposium

08 May 2024

Professor Ken Benoit, Director, Data Science Institute, LSE; **Dr Mark Kennedy**, Director, Data Science Institute, Imperial College London; **Dr Thomas Ferretti**, Lecturer in Ethics and Sustainable Business, University of Greenwich; **Professor Jolene Skordis**, Director of the Centre for Global Health Economics, UCL; **Professor Andrew Murray**, LSE Law School; **Professor Paul Bernal**, Professor of Information Technology Law, UEA Law School; **Dr Giulia Gentile**, Lecturer in Law, University of Essex Law School; **Dr Eden Sarid**, Lecturer in Law, King's College London; **Dr Florian Foos**, Associate Professor, Department of Government, LSE; **Professor René Lindstädt**, Head of the School of Government, University of Birmingham; **Professor Helen Margetts**, Director of the Public Policy Programme, The Alan Turing Institute; **Dr Omar A Guerrero**, Head of Computational Social Science Research, The Alan Turing Institute; **Professor Slava Jankin**, Professor of Data Science and Government, University of Birmingham; **Dr Kate Vredenburg**, Assistant Professor, Department of Philosophy, Logic and Scientific Method, LSE; **Dr David Watson**, Lecturer in Artificial Intelligence, King's College London; **Dr Marcos Barreto**, Assistant Professor (Education), Department of Statistics, LSE; **Dr Francesca Panero**, Assistant Professor, Department of Statistics, LSE; **Professor Mutlu Cukurova**, Professor of Learning and Artificial Intelligence, UCL; **Dr Divya Srivastava**, Health Economist, Guest Teacher in the Department of Health Policy, LSE; **Dr Saira Ghafur**, Lead for Digital Health at the Institute of Global Health Innovation, Imperial College London

This symposium brought together experts from a range of disciplines – from philosophy to statistics, government and law – to reflect together on the future directions, applications and consequences of the use of AI and data science.

AI and democracy

12 June 2024

Professor Andreas Jungherr, Professor of Political Science and Digital Transformation, University of Bamberg

Chair: **Dr Ghita Berrada**, Assistant Professor (Education), Data Science Institute, LSE

As part of the CIVICA Data Science seminar series, Professor Jungherr presented his research on the impact of AI on democracy, focusing on some key aspects of democracy: political self-determination, equality, and elections; and on the conflict between democracies and autocracies.

AIED and EdTech procurement

23 July 2024

Dr Jon Cardoso-Silva, Assistant Professor (Education), Data Science Institute, LSE; **Dr Velislava Hillman**, Founder of EDDS, LSE Fellow; **Alyson Hwang**, Senior Researcher, Policy Connect

The first event of a two-part series on EdTech procurement, organised by the Department of Media and Communications in collaboration with the Eden Centre and the Data Science Institute at LSE.

Student events



Welcome week

Studying data science at LSE

20 September 2023

Professor Ken Benoit, Director, Data Science Institute, LSE; **Dr Jon Cardoso-Silva**, Assistant Professor (Education), Data Science Institute, LSE; **Dr Marcos Barreto**, Assistant Professor (Education), Department of Statistics, LSE; **Dr Milena Tsvetkova**, Associate Professor, Department of Methodology, LSE; **Michael Wiemers**, Learning Developer, Digital Skills Lab, LSE; **Professor Gregory Sorkin**, Professor, Department of Mathematics, LSE; **LJ Silverman**, Head of LSE Generate

Featuring insights from departments across LSE, this event informed new students about the different opportunities for studying data science at the School.

Studying data science at LSE – student perspective

21 September 2023

Amara Otero-Salgado, DS105 student, LSE; **Nikolai Semikhatov**, DS105 student, LSE; **Alberto Martino**, DS105 student, LSE; **Terry Zhou**, DS105 student, LSE

Chair: **Dr Jon Cardoso-Silva**, Assistant Professor (Education), Data Science Institute, LSE

Presentations from students showcasing their projects from DSI modules were followed by an interactive question and answer session.

Careers in data science

Data science as a career and a side hustle

24 October 2023

Ben Marshall, Lead Data Scientist, John Lewis & Partners

Ben Marshall explored how he has taken his experience as Lead Data Scientist at John Lewis & Partners and applied it to launching a side hustle.

In data science, context is key but passion is even better!

28 November 2023

Lareina Milambiling, Senior Data Scientist, The LEGO Group

In this presentation, Lareina Milambiling shared with students her indirect route into data science, and how context and passion has motivated her and propelled her career forward.

Keeping London moving with data

28 February 2024

Lauren Sager Weinstein, Chief Data Officer, Transport for London (TfL); **Jemima Clifford**, Graduate Data Scientist, Transport for London (TfL)

This session provided students with insights and advice about working in the data science field as part of our Careers in Data Science seminar series.

This event was delivered in partnership with the LSE Women in Tech Student Union Society and part of our Careers in Data Science Women's Month series.

The LEGO Group career panel

05 March 2024

Chloe Thompson, Data Scientist, The LEGO Group; **Saghar Motarjemi**, Data Scientist, The LEGO Group; **Aparna Harichandran**, Data Scientist, The LEGO Group; **Garima**, Senior Data Scientist, The LEGO Group

Chair: **Olivia Belton**, Data Ethics Specialist, The LEGO Group

Speakers on this panel discussed common career questions relating to transitions into industry, the different types of data roles and the importance of data ethics. All panellists are part of The LEGO Group's Women in Data community.

This event was co-hosted by the LSE Student Union Data Science Society and was part of our Careers in Data Science Women's Month series.

Demystifying the transition from non-tech into data science

20 March 2024

Rianna Beaton, Data Scientist, Amazon

In this third event of our Careers in Data Science Women's Month series, Rianna spoke to students about how she forged a path from a non-technical role into data science.

Industry visits

Bank of England

29 September 2023

This visit offered students taking DSI modules insights into data science roles at the Bank of England. Students had a tour of the Bank, an introduction to how AI, machine learning and analytical tools are employed, heard a number of career stories and enjoyed a networking lunch.

Ekimetrics

06 February 2024

This visit provided students with insights into data science roles at Ekimetrics. It involved an office tour, an interactive case study, discussion on AI and sustainability, and offered the opportunity to network.

The information in this publication can be made available in alternative formats.

If required, please email [**dsi.admin@lse.ac.uk**](mailto:dsi.admin@lse.ac.uk)

Design: West9 Design (west9design.co.uk)

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