Ana Trišović

Computer Science & Artificial Intelligence Laboratory (CSAIL), MIT Sloan School of Management &
The Institute for Quantitative Social Science (IQSS) at Harvard
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Research Interests

- *Broad Interests*: AI and Society; Computational Social Science; Information Science and Systems
- *Application Areas*: AI for Science; AI Algorithmic Efficiency; Environmental Sustainability
- *Methodologies*: Foundation Models, Machine Learning, Statistical Inference, Data Visualization

Education

2014 - 2018 **University of Cambridge, Newnham College**
PhD in Computer Science

2010 - 2014 **Union University, School of Computing** in Serbia
BSc in Computer Science

2010 - 2013 **University of Belgrade** in Serbia
BSc in Mechanical Engineering

Work Experience

Sept 2023 – Present **Massachusetts Institute of Technology**

- *Research Scientist* at FutureTech - Lead research on the societal and scientific impact of AI across disciplines, industries, and geopolitical contexts. PI of the first Sloan Foundation grant at CSAIL.

Sept 2019 – Present **Harvard University**

- *Research Associate* (Feb 2022 – Present) at The Institute for Quantitative Social Science
  Advance data infrastructure and user research to optimize the Dataverse platform's capabilities.
- *Research Associate* (Feb 2022 – Sept 2023) at Harvard T.H. Chan School of Public Health
  Built climate–health data pipelines. Co-authored NIH grants securing over $6M.
- *Postdoctoral Fellow* (Sept 2019 – Feb 2022) at The Institute for Quantitative Social Science
  Advanced Dataverse repository, built partnerships, and secured Sloan Foundation grant.

Sept 2018 – Sept 2019 **University of Chicago**

- *Postdoctoral Fellow* at The Energy Policy Institute - Supported modeling of climate policy impacts, including estimating the social cost of carbon using large-scale environmental data.

July 2013 – Aug 2018 **CERN**

- *Project Associate* (Sept 2017 – Aug 2018) – Contributed to CERN Open Data and Analysis Preservation platforms, advancing infrastructure for reproducible and accessible research.
- *Doctoral Student* (Aug 2014 – Sept 2017) – Designed systems to capture dependencies between software, detectors, and datasets for LHCb, supporting seamless data analysis across upgrades.
- *Technical Student* (July 2013 – July 2014) – Developed a particle collision display tool for LHCb, now used by students worldwide through the International Masterclass program.

Mar 2013 – July 2013 **Microsoft**

- *Data Science Associate* - Analyzed Azure cloud metrics to assess load balancing and blacklisting systems, proposing optimizations for performance and efficiency.

Selected Publications

Journal articles

1. **Ana Trišović**, Jan Range, Philip Durbin, Katherine Mika, Amber Leahey, Wei Li, and Danielle Braun. "Advancing Geospatial Data Infrastructure in Dataverse via Metadata Automation, Interactive Tools and LLM Case Study". *Environmental Modelling & Software* (2025)

2. Jie Kate Hu, **Ana Trišović**, Ankita Bakshi, Danielle Braun, Francesca Dominici, and Joan Casey. "Co-exposure to Extreme Heat, Wildfire Burn Zones, and Wildfire Smoke in the Western US from 2006 to 2020". *Science Advances* (2025)

3. James A. Rising, Azhar Hussain, Kevin Schwarzwald, and **Ana Trišović**. "A Practical Guide to Climate Econometrics: Navigating Key Decision Point in Weather and Climate Data Analysis". *Journal of Open Source Education (JOSE)* (2025)

4. Whanhee Lee, Xiao Wu, Seulkee Heo, Joyce Mary Kim, Kelvin C Fong, Ji-Young Son, Matthew Benjamin Sabath, **Ana Trišović**, Danielle Braun, Jae Yoon Park, Yong Chul Kim, Jung Pyo Lee, Joel Schwartz, Ho Kim, Francesca Dominici, Ziyad Al-Aly, and Michelle L. Bell. "Air Pollution and Acute Kidney Injury in the US Medicare Population: A Longitudinal Cohort Study". *Environmental Health Perspectives* (2023)

5. **Ana Trišović**. "Cluster Analysis of Open Research Data: A Case for Replication Metadata". *International Journal of Digital Curation* (2023)

6. **Ana Trišović**, Matthew K. Lau, Thomas Pasquier, and Mercè Crosas. "A Large-scale Study on Research Code Quality and Execution". *Nature Scientific Data* (2022)

7. Daniel Garijo, Hervé Ménager, Lorraine Hwang, **Ana Trišović**, Michael Hucka, Thomas Morrell, Alice Allen, Task Force on Best Practices for Software Registries, and SciCodes Consortium. "Nine Best Practices for Research Software Registries and Repositories". *PeerJ Computer Science* (2022)

8. Stian Soiland-Reyes, Peter Sefton, Mercè Crosas, Leyla Jael Castro, Frederik Coppens, José M Fernández, Daniel Garijo, Björn Grüning, Marco La Rosa, Simone Leo, Eoghan Carragáin, Marc Portier, **Ana Trišović**, RO-Crate Community, Paul Groth, and Carole Goble. "Packaging research artefacts with RO-Crate". *Data Science* (2021)

9. **Ana Trišović**, Katherine Mika, Ceilyn Boyd, Sebastian Feger, and Mercè Crosas. "Repository Approaches to Improving the Quality of Shared Data and Code". *Data* (2021)

10. Kelly Blumenthal, Aleksandrina Goeva, Sara Stoudt, **Ana Trišović**, and Pavle Trišović. "Why Do We Plot Data?" *Harvard Data Science Review* (2021)

11. Aleksandrina Goeva, Peyton Jones, Sara Stoudt, and **Ana Trišović**. "Recipes for Connector Courses From the Early-Career Board Kitchen". *Harvard Data Science Review* (2021)

12. Shuang Frost, Aleksandrina Goeva, Javin Pombra, Will Seaton, Sara Stoudt, **Ana Trišović**, Chris Wang, and Catherine Zucker. "Kaleidoscopic Perspectives on Practicum-Based Data Science Education". *Harvard Data Science Review* (2021)

13. Aleksandrina Goeva, Sara Stoudt, and **Ana Trišović**. "Toward Reproducible and Extensible Research: from Values to Action". *Harvard Data Science Review* (2020)

14. Shuang Frost, Aleksandrina Goeva, William Seaton, Sara Stoudt, and **Ana Trišović**. "Early-Career View on Data Science Challenges: Responsibility, Rigor, and Accessibility". *Harvard Data Science Review* (2020)

15. **Ana Trišović**, Chris R. Jones, Ben Couturier, and Marco Clemencic. "Provenance Tracking in the LHCb Software". *Computing in Science & Engineering (CISE)* (2020)

16. Xiaoli Chen, Sünje Dallmeier-Tiessen, Robin Dasler, Sebastian Feger, Pamfilos Fokianos, Jose Benito Gonzalez, Harri Hirvonsalo, Dinos Kousidis, Artemis Lavasa, Salvatore Mele, Diego R. Rodriguez, Tibor Simko, Tim Smith, **Ana Trišović**, Anna Trzcinska, Ioannis Tsanaktsidis, Markus Zimmermann, Kyle Cranmer, Lukas Heinrich, Gordon Watts, Michael Hildreth, Lara Lloret Iglesias, Kati Lassila-Perini, and Sebastian Neubert. "Open Is Not Enough". *Nature Physics* (2019)

17. Thomas Pasquier, Matthew K. Lau, **Ana Trišović**, Emery R. Boose, Ben Couturier, Mercè Crosas, Aaron M Ellison, Valerie Gibson, Chris R. Jones, and Margo Seltzer. "If These Data Could Talk". *Nature Scientific Data* (2017)

Conference and workshop articles

18. Hans Gundlach, Alex Fogelson, Jayson Lynch, **Ana Trišović**, Jonathan S. Rosenfeld, Anmol Sandhu, and Neil Thompson. "On the Origin of Algorithmic Progress in AI". *Computing Research Repository (CoRR)/arXiv* (2025)

19. Janakan Sivaloganathan, **Ana Trišović**, and Neil Thompson. "Mapping the Impact of Foundation Models on the UN Sustainable Development Goals". *21st IEEE International Conference on e-Science* (2025)

20. Alex Fogelson, **Ana Trišović**, and Neil Thompson. "LLMs in Citation Intent Classification: Progress, Precision, and Reproducibility Challenges". *Proceedings of the ACM Conference on Reproducibility and Replicability (ACM REP)* (2025)

21. **Ana Trišović**, Gabe Miller, Dimitris Bertsimas, and Jie K. Hu. "Predicting Concurrence of Heatwaves, Droughts, and Wildfires with Spatiotemporal Deep Learning". *Tackling Climate Change with Machine Learning at ICLR* (2025)

22. **Ana Trišović**, Jan Range, Philip Durbin, Amber Leahey, Wei Li, and Danielle Braun. "Improving FAIR Compliance for High-Dimensional Data via Automated Metadata Extraction". *2025 IEEE International Conference on eScience (eScience)* (2025)

23. Mauricio Tec, **Ana Trišović**, Michelle Audirac, Sophie Woodward, Jie Kate Hu, Naeem Khoshnevis, and Francesca Dominici. "`SpaCE`: The Spatial Confounding Environment". *12th International Conference on Learning Representations (ICLR)* (2024)

24. Mauricio Tec, **Ana Trišović**, Michelle Audirac, and Francesca Dominici. "`SpaCE`: The Spatial Confounding (Benchmarking) Environment". *CLeaR (Causal Learning and Reasoning)* (2023)

25. Daina Bouquin, Oliver Bertuch, Elena Colon-Marrero, and **Ana Trišović**. "Advancing Software Citation Implementation". *Computing Research Repository (CoRR)* (2023)

26. Layan Bahaidarah, Ethan Hung, Andreas Francisco De Melo Oliveira, Jyotsna Penumaka, Lukas Rosario, and **Ana Trišović**. "Toward reusable science with readable code and reproducibility". *18th International Conference on e-Science (e-Science)* (2022)

27. Nadica Miljkovic, **Ana Trišović**, and Limor Peer. "Towards FAIR Principles for Open Hardware". *Conference on Application of Free Software and Open Hardware (PSSOH)* (2021)

28. **Ana Trišović**, Philip Durbin, Tania Schlatter, Gustavo Durand, Sonia Barbosa, Danny Brooke, and Mercè Crosas. "Advancing Computational Reproducibility in the Dataverse Data Repository Platform". *3rd International Workshop on Practical Reproducible Evaluation of Computer Systems (P-RECS)* (2020)

29. Anna E. Woodard, **Ana Trišović**, Zhuozhao Li, Yadu Babuji, Ryan Chard, Tyler Skluzacek, Ben Blaiszik, Daniel S. Katz, Ian Foster, and Kyle Chard. "Real-Time HEP Analysis With FuncX – a High-Performance Platform for Function as a Service". *24th International Conference on Computing in High Energy & Nuclear Physics (CHEP)* (2020)

30. **Ana Trišović**. "Graph Mining at the High-Energy Physics Experiment LHCb". *7th International Symposium on Industrial Engineering* (2018)

31. **Ana Trišović**, Ben Couturier, Val Gibson, and Chris R. Jones. "Recording the LHCb Data and Software Dependencies". *22th International Conference on Computing in High Energy & Nuclear Physics (CHEP)* (2017)

32. **Ana Trišović**. "Measuring the D^0 Lifetime at the LHCb Masterclass". *37th International Conference on High Energy Physics (ICHEP)* (2016)

Under review and work in progress

33. **Ana Trišović**, Alex Fogelson, Janakan Sivaloganathan, and Neil Thompson. "The Rapid Growth of AI Foundation Model Usage in Science". *Submitted to Science*

34. **Ana Trišović**, Alex Fogelson, and Neil Thompson. "Strategic Control of AI: Corporate R&D, Public Sector Lag, and the Emerging De-Democratization of Innovation". *Work in Progress*

35. **Ana Trišović**, Alex Fogelson, and Neil Thompson. "Is USA Failing to Capitalize on its AI Investment Advantage over China?" *Work in Progress*

36. Jie K. Hu, **Ana Trišović**, and Joan A. Casey. "Gaps in Air Quality Monitoring in Wildfire Smoke-Impacted Western United States". *Submitted to Nature Communications*

37. Romain Puech, Joseph Ye, Danique de Moor, **Ana Trišović**, and Dimitris Bertsimas. "WFDroneBench: A Benchmark for Sensor Placement and Drone Routing for Wildfire Detection". *Submitted to the International Conference on Representation Learning (ICLR)*

I am a coauthor of many publications in Physics as a member of the LHCb collaboration at CERN. My h-index is 98 (Google Scholar).

Research Grants

2025–2027 **Alfred P. Sloan Foundation** ($300,000)
Principal Inestigator (co-developed and conceptualized the proposal) with Dr. Neil Thompson as Co-PI, for quantifing the use of AI in science and exploring automation in science.

2025–2026 **MIT Generative AI Impact Consortium** ($150,000)
Key Personnel (co-conceived and co-wrote the funded proposal) with Prof. Dimitris Bertsimas as PI, "Personalized Learning with GenAI for MIT Open Learning Courseware".

2023–2025 **Microsoft - Innovation + Society** ($300,000)
Key Personnel (co-conceived and co-wrote the funded proposal) with Dr. Neil Thompson as PI, "Measuring the accessibility and democratization of the AI ecosystem in science".

2025–2026 **OpenAI Credits for Research** ($1,000)
Project Lead (proposal concept & development) for large-scale bibliometric analysis of AI in science.

2024–2025 **OpenAI Credits for Research** ($10,000)
Project Lead (proposal concept & development) for large-scale bibliometric analysis of AI in science.

2023–2026 **National Institute of Environmental Health Sciences** ($6.7 milion)
Key Personnel (co-conceived and co-wrote the funded proposal) with Prof. Francesca Dominici as PI and others for creating a Research Coordinating Center (RCC) on climate change and health

2022-2024 **Institute of Museum and Library Services** ($99,372)

PI with Dr. Daina Bouquin, for Software Citation Implementation: Action Plan Development.

2022–2023 **National Institutes of Health** ($238,197)
Key Personnel (conceived and wrote the funded proposal), for supporting dissemination of geospatial data in the Dataverse repository.

2022–2023 **National Institutes of Health** ($336,874)
Key Personnel (co-conceived and co-wrote the funded proposal), for developing approaches for AI/ML readiness for wildfire exposures.

2020–2023 **Alfred P. Sloan Foundation** ($196,990)
Key Personnel (co-conceived and co-wrote the funded proposal), with Prof. Gary King and Dr. Merce Crosas as PI, "Preservation of advanced computing artifacts and automatic code revision for research reproducibility and reuse".

2019–2021 **CLIR Micro-Grant for Research** ($3,000)
Key Personnel (conceived and wrote the funded proposal), for exploring gamification in reserach dissemination.

2019–2020 **Amazon AWS Cloud Credits for Research** ($10,000)
Project Lead (conceived and wrote the funded proposal), for large-scale research software analysis in Dataverse.

Awards, Prizes, & Fellowships

2025 **Excelencia Severo Ochoa Mobility Fellow**
Visit to the Barcelona Supercomputing Center (BSC) in Spain.

2025 **Breakthrough Prize in Fundamental Physics**
Laureate as part of the LHCb Collaboration at CERN.

2025 **NSF SeekCommons Fellow**
Work on STS, Open Science, and Socio-Environmental research.

2024 **USCIS EB-2 National Interest Waiver**
Recognized as a Person of National Interest in the USA.

2020 **SciPy 2020 Top Reviewer**
for reviewing submissions at the SciPy conference.

2019 **Research Data Alliance (RDA) Early-Career Fellowship**

2016 **Computing in High Energy Physics (CHEP) Student Scholarships**

2014 **Google Anita Borg Memorial Scholarship (Women Techmakers)**
For outstanding achievement, leadership, and community involvement.

2015–2017 **Muir Wood Scholarship, Newnham College, University of Cambridge**
For Mathematics, Engineering and Science.

2013–2015 **Dositeja Award** - for extraordinary students in Serbia.

2012 **Deutscher Akademischer Austauschdienst (DAAD) Scholarship**

2011–2012 **Praise for Outstanding Academic Achievements** at University of Belgrade.

2011 **Belgrade City Scholarship for Extraordinary Students**

2010 **First Step to Nobel Prize in Physics** - Honorable Mention.

2006–2010 **The International Physics Olympiad (IPhO)**
Awards at regional and republic-level Physics competitions in Serbia.

2006 **Valedictorian**
Primary and Secondary School Despot S. Lazarevic.

Teaching Experience

2025 **Universal AI (UAI) at MIT Open Learning**
Course creator and instructor in Data Analytics and Machine Learning.

2024 **NASA's Transform to Open Science Summer School, UIUC**
Lecturer on Open Science and AI methods.

2023 **Research Education in Genome Science, School of Medicine at Mount Sinai**
Lecturer on Reproducibility in Scientific Computing.

2023 **International Summer School on Deep Learning & Big Data (IRDTA)**
Lecturer on Principles of Computational Research.

2021 **Summer School at the Xidian University in China**
Lecturer in Introduction to Machine Learning.

2017 **LHCb Experiment at CERN, Switzerland**
Instructor in Fundamentals of Data Analysis in Particle Physics.

2015 **Newnham College, University of Cambridge**
TA in Algorithms (Undergraduate).

2015 **Cavendish Laboratory, University of Cambridge**
TA in Physics Practicals (Undergraduate) and Computational Physics (Graduate).

Research Adivising & Mentoring

2025 **Romain Puech** PhD '27. MIT. Project mentor.
2025 **Caio de Prospero Iglesias** MBA '25. MIT. Project mentor.
2025 **Gabe Miller** MBA '25. MIT. Project mentor.
2024 **Anna Tsvetkov** PhD '25. Brown University. Project mentor.
2020 **Layan Bahaidarah** B.Sc. '20. Boston University. Capstone project mentor.
2020 **Ethan Hung** B.Sc. '20. Boston University. Capstone project mentor.
2020 **Andreas F. De Melo Oliveira** B.Sc. '20. Boston University. Capstone project mentor.
2020 **Jyotsna Penumaka** B.Sc. '20. Boston University. Capstone project mentor.
2020 **Lukas Rosario** B.Sc. '20. Boston University. Capstone project mentor.

Invited Talks, Keynotes and Panels

2025 **11th International Scientific Conference on Advances in Mechanical Engineering (ISCAME)**
Keynote Speaker.

2025 **650th EUROMECH Colloquium: Addressing Challenges in Applied Mechanics through AI Applications**
Invited Talk on "Foundation Models in Engineering and the Hard Sciences".

2025 **21st IEEE International Conference on eScience**
Invited talk at the featured session "Frontiers and Horizons in eScience"

2025 **Academy of Management (AOM)**
Member of the organizing committee for the professional development workshop "Space Economy – Opportunities for Management Research"

2025 **National Academies of Sciences, Engineering, and Medicine's (NASEM)**

Panel Moderator for the Special Closed Session: "Defining the Parameters of Success for a National Next-Gen AI Initiative" at Government-University-Industry-Philanthropy Research (GUIPRR).

2025 **10th International Conference on Information and Communication Technology for Intelligent Systems**
Keynote Speaker.

2025 **MIT Operations Research Center (ORC)**
Invited talk on "Analysis of Co-Exposure to Extreme Heat, Wildfire Burn Zones, and Wildfire Smoke in the Western US" at the IAP Seminar.

2024 **OpenForum Academy Symposium**
Invited talk on "The AI Revolution in Science: Scaling Up, De-democratization, and the Vital Role of Open Source".

2022 **International Conference on Supercomputing (SC22)**
Panelist at the session on "Reproducibility and Trustworthiness of Computational Research'.

2022 **Statistical Software Conference**
Invited talk on "Evidence-based practices for better research software".

2022 **Journal Editors Discussion Interface (JEDI) workshop**
Invited talk.

2022 **Serbian Academy of Sciences and Arts**
Invited talk.

2022 **Pew Research Center**
Invited talk "The Landscape of Data Sharing and Computational Reproducibility for Social Research".

2021 **Gathering for Open-Source Hardware (GOSH) Meeting**
Invited talk on "FAIR Principles for Open Hardware".

2021 **Helmholtz Rich Metadata Software Publication (HERMES) Workshop**
Invited talk on Research Software Preservation at the Dataverse Project.

2021 **Metascience Conference**
Invited talk on "Evidence-based steps toward a culture for replicability and reproducibility".

2021 **Expert Meeting on Data Sharing Guidance for NIA Longitudinal Studies**
Convened by the Committee on National Statistics (CNSTAT), National Academies of Sciences, Engineering, and Medicine, for the Division of Behavioral and Social Research (BSR), National Institute on Aging (NIA). Invited talk "The Dataverse Project: Data sharing, Reproducibility, Research, Development and the Community".

2019 **European Centre for Medium-Range Weather Forecasts (ECMWF)**
Keynote Speaker at "Building Reproducible Workflows for Earth Sciences" Workshop

2016 **Cambridge Centre for Data-Driven Discovery (C2D3) (Big Data)**
Invited talk on the physics data provenance at the LHCb experiment at the "Multidisciplinary Perspectives on Data Preservation and Access" Workshop

Consortiums, Societies & Service Work

2024 – Present **National Academies of Sciences, Engineering, and Medicine (NASEM)**
Member of the U.S. National Committee for CODATA.

2023 – Present **Journal of Open-Source Software (JOSS)**
Topic Editor.

2021 – Present **Journal of Systems Research (JSys)**
Review Board Member in Data Science and Reproducibility.

2022 – 2024 **Oxford and Cambridge Society of New England**
Member Alumni.

2020 – 2023 **Harvard Data Science Review (HDSR)**
Member of the Early-Career Board.

2021 – 2023 **Consortium of Scientific Software Registries and Repositories (SciCodes)**
Committee Member.

2021 – 2023 **GDCC Software and Container Metadata Working Group**
Working Group Chair.

Conference Activities

2025 **ACM Conference on Reproducibility and Replicability** - Poster Session Chair

2024 **Supercomputing Conference** - Reproducibility Initiative Committee member

2023 **IEEE International Conference on eScience** - Poster Session Chair

2021 **CLIR Webinar: Toward Open, Reproducible and Reusable Research** - Organiser

2020 – 2021 **Annual Dataverse Community Meeting** - Planning Committee and Chair

2020 **SciPy Scientific Computing Conference** - Program Committee

2020 **The Theory and Practice of Provenance (TaPP)** - Program Committee

Press

2025 **MIT News**

2024 **Politika**, Serbia's oldest daily newspapers

2024 **Dive In Podcast**

2023 **ReproducibiliTea Podcast**

2022 **The Scientist**

2022 **The Research Software Engineering (RSE) Stories Podcast**

References

Dr. Neil Thompson
Director of the MIT FutureTech Research Project
Principal Research Scientist
MIT Computer Science & Artificial Intelligence Laboratory and MIT Sloan School of Management

Prof. Gary King
Director of the Institute for Quantitative Social Science
Albert J. Weatherhead III University Professor
Harvard University

Prof. Dimitris Bertsimas
Vice Provost for MIT Open Learning
Boeing Leaders for Global Operations Professor of Management, Professor of Operations Research
MIT Sloan School of Management