

Centre for Social Data Science (CSDS)

Annual report 2024

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Introduction

The Centre for Social Data Science (CSDS) at the University of Helsinki's Faculty of Social Sciences is Finland's only research institution dedicated to social data science. Established in [October 2019](#), CSDS has quickly grown into a key player in a rapidly evolving global field that brings together statistics, computing, and social-science research.

The mission of the Centre for Social Data Science is to foster an inspiring and dynamic environment for pioneering research at the intersection of social science, computer science, and statistics. Our commitment is to nurture a vibrant community of scholars, practitioners, and students dedicated to exploring the transformative potential of social data science in addressing the pressing challenges of our time.

CSDS operates at the intersection of cutting-edge methods and critical societal questions to build a foundation for inclusive, data-driven social research. Our work strengthens the Faculty's capacity to navigate complex data landscapes and address urgent societal challenges. Our ongoing activities are highlighted at our website <https://www.helsinki.fi/en/networks/centre-social-data-science>.

In this report, we bring to the forefront our progress, impact, and future directions as the Centre has just celebrated its 5th anniversary.

Aims and current state

The Centre aims to advance social data science by teaching courses to Master's and PhD students, providing key infrastructures and hosting services that support data-intensive research. In addition, CSDS actively contributes to cutting-edge scientific research through its key staff, who are leading and working within interdisciplinary groups across the University and beyond, strengthening both methodological innovation and societal impact.

Teaching courses to Master's and PhD students

The goal of educational offering provided by CSDS is to equip students at both Master's and PhD levels with robust, data-intensive methods grounded in social science theory. CSDS teaching places special emphasis on hands-on learning, practical data skills, and strong foundations in research design.

In 2024, CSDS has continued teaching both classical statistical techniques and advanced, innovative approaches like machine learning, AI, network analysis, and natural language processing, applied to diverse data types (numeric, textual, audio, image). In addition, in 2024, CSDS [reinstated its bi-weekly in-person PhD Seminar](#) in Social Data Science led by Prof. Krista Lagus, significantly enhancing peer engagement, fostering collaborative feedback, and enriching disciplinary dialogue among doctoral researchers.

The year 2024 was significant as the second cohort of master's students in social data science graduated in large numbers. During the year 2024, one student from the third cohort also graduated, and a good number of new graduates are expected again in the coming year. The completed theses are listed in the subsection Thesis p. 8.

Hosting services and infrastructures

CSDS hosts a range of services and infrastructures that support data-intensive social research across disciplines. These include tools for data collection and analysis, methodological support, and consultations for managing sensitive or large-scale datasets.

The **Methods Clinic** —offered every Friday by CSDS and HSSH— is a weekly drop-in Zoom consultation where researchers and doctoral students can get guidance on research planning, data collection, analysis, and interpretation. Unlike formal courses, the Methods Clinic allows researchers across different Central Campus disciplines to receive timely, tailored help with real research challenges. This model lowers barriers to methodological support, making advanced expertise more inclusive and embedded in everyday research practice and to the benefit of the whole University community.

Similarly, CSDS has been involved in the **infrastructure development for social sciences and humanities** (DARIAH-FI). In 2024, this work included finalising work on FinnSurveyText (<https://cran.r-project.org/web/packages/finnsurveytext/index.html>), developing capabilities for image analysis and building tools to work on Finnish social media data. For more extensive outcomes, see <https://github.com/topics/dariah-fi>.

Working in research groups and scientific projects

CSDS structures its research through three active and interdisciplinary groups, each reflecting a core focus area: social computing, and a good digital society. Together, these groups foster a vibrant, cross-cutting research culture that spans computational methods and societal trends in the digital age. In addition, the Centre leads a diverse array of interdisciplinary research projects that explore the intersection of digital technologies and societal dynamics.

Research groups

Helsinki Social Computing Group bridges political science, human–computer interaction, design, and data science, investigating how digital technologies interact with social systems. Our work includes projects such as:

Interrogating the Politics of Information Systems is a project that challenges critical technology research by using constructive methods from art, design, and human-computer interaction to explore how ideologies and values influence the design of information systems and their role in political activity.

The Lobbying on Social Media examines how social media platforms like Twitter/X have transformed political lobbying from a traditionally hidden practice into a visible, public process, aiming to understand lobbyists’ influence on political decision-making in this new environment. This project is done in collaboration with Juho Vesa.

Computational visual media develops approaches and methods to engage big visual and multimodal data using computational methods, balancing between what is computationally feasible and what is required in social sciences.

Good Digital Society Group explores how to build an inclusive digital-era society, anchoring its work in multi-disciplinary doctoral projects like [FinnSurveyText](#).

Research projects

Algorithmic Governance – A Public Perspective (AGAPP) (PI Daria Gritsenko) is an ERC-funded project that examines public perceptions of algorithmic decision-making systems using the case of the European Travel Information and Authorisation System (ETIAS).

Heuristics of Doubt: Information Foraging in Digital Media Environments (PI Daria Gritsenko) is a project funded by the Kone Foundation. It investigates how individuals assess the credibility of information in digital media environments, focusing on the heuristics employed by both media professionals and the general public.

FinnSurveyText - Survey open answers analysis (PI Krista Lagus) is a project that combines survey statistics with modern language technology to analyze open-ended survey responses in Finnish, aiming to enhance understanding of public opinion.

People

Staff

Maria Valaste, Senior University Lecturer in Social Data Science, Director of CSDS

Ariel Abeldaño Zuñiga, University Lecturer in Social Data Science, Deputy Director of CSDS

(joined in 2023, as an hourly teacher in 2024)

Matti Nelimarkka, University Lecturer in Computational Social Science

Krista Lagus, Professor of Digital Social Science

Kimmo Vehkalahti, Senior University Lecturer in Social Data Science

Daria Gritsenko, Associate Professor in Digital Social Science (joined in 2024)

Fellows

Catarina Ahlvik, Affiliated Researcher (Management and Organization, Hanken School of Economics)

Ilja Kavonius, University Researcher (Centre for Consumer Society Research)

Hanna Konttinen, Senior University Lecturer (Social Psychology)

Riikka Koulu, Associate Professor (Law and Digitalisation)

Salla-Maaria Laaksonen, University Researcher (Centre for Consumer Society Research)

Krister Lindén, Research Director (Digital Humanities)

Eetu Mäkelä, Associate Professor (Digital Humanities)

Minna Ruckenstein, Associate Professor (Centre for Consumer Society Research)

Karri Silventoinen, Professor (Demography, Population Research Unit)

Reijo Sund, Professor (Register Studies, University of Eastern Finland)

Mikko Tolonen, Associate Professor (Digital Humanities)

Julia Velkova, Assistant Professor (Technology and Social Change, Linköping University, Sweden)

Laszlo Vincze, University Lecturer (Quantitative Methods, Swedish School of Social Science)

Professors Emeriti

Juha Alho (Social Statistics)

Risto Lehtonen (Social Statistics)

Seppo Mustonen (Statistics)

Hannu Niemi (Statistics)

Lauri Tarkkonen (Statistics)

Early-career researchers

Jesse Haapoja, Postdoctoral Scholar

Felix Epp, Postdoctoral scholar

Anton Berg, Doctoral Researcher

Robin Forsberg, Doctoral Researcher

Adeline Clarke, Project researcher

Anastasiia Volkova, Doctoral Researcher

Leila Gharavi, Doctoral Researcher

Alexandra Bruncrona, Doctoral Researcher

Nea-Mari Heinonen, Doctoral Researcher

Murat Dincer, Doctoral Researcher

Academic production

Information about our publications can be found on the University of [Helsinki Research Portal](#) and listed below as highlights of the year.

Digital platforms

1. **Gritsenko, D.** (2024). Advancing UN digital cooperation: Lessons from environmental policy and governance. *World Development*, 173, 106392.
2. **Gritsenko, D.**, Aaen, J., & Flyvbjerg, B. (2024). Rethinking digitalization and climate: don't predict, mitigate. *npj Climate Action*, 3(1), 43.
3. **Palacin, V.**, McDonald, S., Aagón, P. & **Nelimarkka, M.**, (2024) Configurations of Digital Participatory Budgeting: *ACM Transactions on Computer - Human Interaction*. 31, 2, 28 p.
4. **Nelimarkka, M.** & Vuorenmaa, V., (2024): What Do We Study When Studying Politics and Democracy? A Semantic Analysis of How Politics and Democracy Are Used in SIGCHI Conference Papers. *International Journal of Human-Computer Interaction*. 17 p.
5. Rydenfelt, H., Haapanen, L., **Haapoja, J.** & Lehtiniemi, T., (2024) Personalisation in Journalism: Ethical Insights and Blindspots in Finnish Legacy Medi. *Journalism*. 25, 2, p. 313-333 21 p.
6. Ferreira, P., Hockenhull, M., Ojala, M., Blanco Cardoza, R., **Nelimarkka, M.** & Lampinen, A., (2024) Nordic Perspectives on Algorithmic Systems Card Box. *Interactions*. 31, 6, p. 8-11 4 p.
7. **Haapoja, J.**, Savolainen, L., Reinikainen, H. & Lehtiniemi, T., (2024): Moral orders of pleasing the algorithm. *New Media & Society*. 18 p.

Applications

1. Donati, Maria Anna; **Vehkalahti, Kimmo**; Capitanucci, Daniela & Primi, Caterina (2024). A Structural Equation Model to Explain Gambling Problem Severity in Adolescents with an Integrated Perspective. *Journal of Gambling Studies*, 40, 971–983. doi.org/10.1007/s10899-023-10266-3 (Open Access)
2. Rähä, Kristiina; Katajavuori, Nina; **Vehkalahti, Kimmo**; & Asikainen, Henna (2024). Effects of Study-Integrated Well-Being Course Intervention for Different Burnout and Engagement Profiles of University Students. *Frontline Learning Research*, 12, 45–68. doi.org/10.14786/flr.v12i3.1415 (Open Access)
3. Rähä, Kristiina; Katajavuori, Nina; **Vehkalahti, Kimmo**; Huotilainen, Minna & Asikainen, Henna (2024). University students' stress and burnout risk: results of an ACT-based online-course using self-assessments and HRV-measurements. *Current Psychology*, 43, 20182–20195. doi.org/10.1007/s12144-024-05800-4 (Open Access)

Development of Methods, Software and Practices

1. Clarke, A. P., Lagus, K., Laine, K. H., Litova, M., Nelimarkka, M., Oksanen, J., Peltonen, J., Oikarinen, T. S., Tirkkonen, J.-M., Toivanen, I. & Valaste, M., finnsurveytext (<https://cran.r-project.org/web/packages/finnsurveytext/index.html>)

Thesis

PhD Thesis

1. Anton Berg: Commercial image recognition representing religion (co-supervised by Katja Valaskivi and Matti Nelimarkka)
2. Marjoriikka Ylisiurua: Online swarm dynamics at Suomi24 discussion: Turning points and their stimulation (co-supervised by Mika Panzar, Visa Heinonen and Matti Nelimarkka)

Master's Theses

- Ghaida Azzahra: [Unity in Diversity: Multilevel Analysis of Religious Tolerance in Indonesia](#)
- Kai Ferragallo-Hawkins: [The Rise of Inefficient Energy - Are Gross Estimates of Fossil Fuel Production Hiding Declining Net Energy in Society?](#)
- Hanieh Heidarpour Kiaei: [AI Technologies and Workforce Skills; Analysis of Repeated Cross-sectional Surveys \(2018-2022\)](#)
- Diana Hilleshein: [Natural Language Processing and Media Coverage of Russo-Ukrainian Conflict](#)
- Lashini Liyanage: [Predictive Modelling of Socioeconomic and Psychological Factors Influencing the Gambling Behaviour in Finland](#)
- Ren Yu: [Confirmatory Factor Analysis and Multilevel Structure Equation Model in Assessing Study Burnout and Engagement](#)

Events and activities

During the past year, the centre actively organized various events and activities, including a reading club on the topic of data theory. In addition, the centre hosted a TET trainee Onni Merestö for two days. The biggest event of 2024 was the centre's 5th anniversary celebration.

5-year anniversary

On October 28, 2019, the Centre for Social Data Science was officially inaugurated. Exactly five years later, on Monday, October 28, 2024, the Centre celebrated this milestone at the Faculty's coffee room at Unioninkatu 37 from 1 to 3 PM. The program included speeches, cake and coffee, as well as posters presented by the Centre's staff and students. These remarks highlighted the Centre's contributions to advancing interdisciplinary research in social data science, fostering collaboration across academic disciplines, and promoting innovative methods for analysing complex social phenomena using large-scale data. Overall, the celebration emphasized the Centre's growth and impact in the field, while looking ahead to new challenges and opportunities in social data science research.

Teaching

Courses in Spring 2024

Intensive period (2 - 14 Jan 2024)

- [VALT-103 Johdatus yhteiskuntatilastotieteeseen, osa 1](#), MOOC (2.1.-30.4.2024) (Kimmo Vehkalahti)
- [VALT-104 Johdatus yhteiskuntatilastotieteeseen, osa 2](#), MOOC (2.1.-30.4.2024) (Kimmo Vehkalahti)

Period 3 (15 Jan - 3 Mar 2024)

- (*) [COS-SD311 Master's Thesis Seminar in Social Data Science I](#) (CSDS)
- [COS-D416 Survey Sampling](#) (Maria Valaste)
- [COS-R407 Bridging Quantitative and Qualitative Research](#) (Ariel Abeldaño Zuniga)
- [COS-D426 Applied Quantitative Research Project](#) (Kelsey Wright)
- [COS-D421 The Politics in Human-Computer Interaction](#) (Felix Epp)
- [SOSK-403 Sosiaalitutkimuksen tilastolliset menetelmät](#) (Maria Valaste & Kimmo Vehkalahti et al)

Period 4 (11 Mar - 5 May 2024)

- (*) [COS-SD311 Master's Thesis Seminar in Social Data Science I](#) (CSDS)
- [COS-D418 Exploratory Methods of Multivariate Data Analysis](#) (Kimmo Vehkalahti)
- COS-D443 Methods in Social Epidemiology (Ariel Abeldaño Zuniga) CANCELLED
- [VALT-103 Johdatus yhteiskuntatilastotieteeseen, osa 1](#), MOOC (2.5.-31.8.2024) (Kimmo Vehkalahti)
- [VALT-104 Johdatus yhteiskuntatilastotieteeseen, osa 2](#), MOOC (2.5.-31.8.2024) (Kimmo Vehkalahti)

Intensive period (6 - 31 May 2024)

- [COS-D435 Machine Learning for Social Scientists](#) (Juho Pääkkönen)
- [COS-D436 Network Analysis for Social Scientists](#) (José Luis Estevez)
- [COS-D441 Statistical natural language processing for social science](#) (Juho Pääkkönen)
- [COS-D401 Introduction to the Framework of Economic Statistics](#) (Ilja Kavonius)
- [COS-D412 Introduction to Microsimulation](#) (Maria Valaste)
- [LDA-H302 Helsinki Digital Humanities Hackathon](#) (Mikko Tolonen, Eetu Mäkelä)

Courses in Fall 2024

Intensive period (26 Aug - 1 Sep 2024)

- [COS-D442 Self-Organizing map and its applications for social data science](#) (Krista Lagus)

Period 1 (2 Sep - 20 Oct 2024)

- (*) [COS-SD301 Key Concepts in Social Data Science](#) (CSDS)
- (*) [COS-SD312 Master's Thesis Seminar in Social Data Science II](#) (CSDS)

- [COS-R405 Quantitative Research Skills](#) (Kimmo Vehkalahti)
- [COS-D415 Survey Methodology](#) (Maria Valaste)
- [COS-D439 Collecting Digital Data for Social Scientists](#) (Matti Nelimarkka)
- [COS-D440 \(Social\) Theory and \(Social\) Data Science](#) (Matti Nelimarkka)
- [SOST-9151 Social Data Science PhD Seminar](#) (Krista Lagus)
- [VALT-103 Johdatus yhteiskuntatilastotieteeseen, osa 1](#), MOOC (2.9.-31.12.2024) (Kimmo Vehkalahti)
- [VALT-104 Johdatus yhteiskuntatilastotieteeseen, osa 2](#), MOOC (2.9.-31.12.2024) (Kimmo Vehkalahti)

Period 2 (28 Oct - 15 Dec 2024)

- (*) [COS-SD311 Master's Thesis Seminar in Social Data Science I](#) (CSDS)
- (*) [COS-SD312 Master's Thesis Seminar in Social Data Science II](#) (CSDS)
- [COS-D411 Data Wrangling and Analysis](#) (Maria Valaste)
- [COS-D430 Computational Thinking, Programming and Social Sciences](#) (Matti Nelimarkka)
- [COS-D431 Gender, Family and Inequality](#) (Sanna Kailaheimo-Lönnqvist)
- [SOST-9151 Social Data Science PhD Seminar](#) (Krista Lagus)

Alliances and networks

The CSDS has alliances with research centres and governmental organizations within Finland, as well as with research centres in other European countries. The following organizations are highlighted as those with which alliances are maintained:

- Centre for Consumer Society Research
- HELDIG - Helsinki Centre for Digital Humanities
- HiDATA - Helsinki Centre for Data Science
- HSSH - Helsinki Institute for Social Sciences and Humanities
- Baltic-Nordic-Ukrainian Network on Survey Statistics
- EMOS - European Master of Official Statistics
- FCAI - Finnish Center for Artificial Intelligence
- Finnish Institute for Health and Welfare
- Finnish Institute for Occupational Health
- IASE - International Association for Statistical Education
- ISLP - International Statistical Literacy Project
- KELA - The Social Insurance Institution of Finland
- Max Planck Institute for Demographic Research
- Statistics Finland

Next steps for future years

Teaching

CSDS aims to update its educational offerings by developing new courses that integrate cutting-edge methods in AI, machine learning, and ethical data science. Emphasis will be placed on practical, hands-on training and interdisciplinary collaboration to prepare students for evolving challenges in social data science.

Infrastructure

To support increasingly complex data-intensive research, CSDS plans to participate in infrastructure development projects. Continued investment in support and training of researchers across Central Campus will ensure CSDS contributes to the high level of methodological expertise in SSH fields.

Research

Future research efforts at CSDS will focus on advancing innovative methodologies that address emerging societal issues, such as digital inequality, algorithmic governance, misinformation, and political activities online. Strengthening interdisciplinary collaborations and fostering partnerships with international research centers will be key priorities to amplify impact and relevance.

Contact us

Personally, you can find the CSDS team in its UH premises located on the 3rd floor of Unioninkatu 35 in Helsinki, Finland.

You can get information about our regular and upcoming events at the [CSDS website](#).

You can also contact us via email or UH websites:

- Matti Nelimarkka: matti.nelimarkka@helsinki.fi
- Maria Valaste: maria.valaste@helsinki.fi
- Krista Lagus: krista.lagus@helsinki.fi
- Kimmo Vehkalahti: kimmo.vehkalahti@helsinki.fi
- Ariel Abeldaño Zuñiga: ariel.abeldanozuniga@helsinki.fi

Impressions – 2024 in pictures



Friday Coffees at the Faculty's common coffee room (Unioninkatu 37).



Friday Coffees and lively discussions.



5-year anniversary preparations. SDS students in full swing.



5 year anniversary preparations. Kimmo and Adeline Kimmo and Adeline busy hanging things up.



5-year anniversary: The faculty's speech was given by Vice-Dean Jari Eloranta.



5 year anniversary: Our guests listening to speeches.



5-year anniversary: Social data science students Vaibhav and Mahdi announcing the Social Data Science Club they founded.



Pizza evening at Unioninkatu 35.



Christmas lunch at Zinnkeller. Staff and PhD students are present.