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Job Title Open postdoctoral and doctoral positions to work on

polarization and mental health

**Department** T313 Dept. Computer Science

**Institution** Aalto University

, , Finland

Date Posted Aug. 26, 2025

Application Deadline Open until filled

Position Start Date Available immediately

Job Categories Graduate Student

Post-Doc

Academic Field(s) Computer/Information Sciences

Biology - Computational

Job Website https://aalto.wd3.myworkdayjobs.com/aalto/job/Otaniemi-

Espoo-Finland/Open-postdoctoral-and-doctoral-positions-to-work-on-polarization-and-mental-

health\_R43991

Apply By Email

**Job Description** 

We are looking to make several hires on two new projects related to the interaction of mental health and polarization. We welcome applications at both postdoc and doctoral levels. The projects run for 4 years, and the starting date for the positions is flexible. The duration of the doctoral positions is 4 years, but the length of the postdoc position is negotiable.

The positions are in the [url=https://www.aalto.fi/en/department-of-computer-science]Department of Computer Science at Aalto University in Finland. You will be joining a larger group of researchers working on similar topics. The department has a strong community on related topics: research groups



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working on [url=https://digitraceslab.com/]digital health and wellbeing, [url=http://www.mkivela.com/]network science, [url=https://css.aalto.fi/]computational social science, and various topics in machine learning.

You will be working in the research group of one of the PIs of the projects, but in collaboration with the others. The PIs are Talayeh Aledavood, Juhi Kulshrestha, and Mikko Kivelä.

### About the projects

Political polarization and mental health are deeply intertwined challenges of our time, with rising ideological divides and fragmented information ecosystems coinciding with increasing stress, anxiety, and declining well-being. Polarizing online content not only fuels division and erodes trust but also provokes emotional strain, amplifies loneliness, and threatens resilience. At the same time, mental health vulnerabilities can heighten individuals' susceptibility to divisive narratives, creating a reinforcing feedback loop between societal fragmentation and personal well-being. Addressing this dual crisis requires a holistic, interdisciplinary approach that bridges computational social science and computational mental health to capture fine-grained behavioral data, uncover underlying mechanisms, and design interventions that reduce harm, promote healthier information consumption, and strengthen both individual and collective resilience.

1. POLEMIC: POLarization Entangled with Mental well-being: Integrated and Computational approach to quantifying the underlying feedback loop

The POLEMIC project investigates the dynamic entanglement of political polarization and declining mental well-being by integrating computational mental health and computational social science, using large-scale social media analysis, smartphone-based sensing, and agent-based modeling. Combining macro-level patterns with micro-level behavioral data, it will examine how polarized content influences stress, anxiety, depression, and loneliness, and how mental health vulnerabilities increase susceptibility to polarization. Leveraging network science, NLP, behavioral sensing, and causal inference, the project pioneers new methods for detecting and mitigating online harms. Its results aim to inform public health, policy, and technology design, promoting resilience and empowering individuals to understand and counteract their exposure to polarizing content.

2. PolWell: Mental Health & Wellbeing in the Age of Polarizing Web Content
The PolWell project investigates the fragmented information ecosystems and polarizing online content
that deepens divides, provokes strong emotions, and reinforces biases by going beyond the previous
research, which has been limited to relying on biased self-reports and cross-sectional data. This
project takes a novel, interdisciplinary approach, combining fine-grained web-browsing data, validated
psychological scales, online experiments, and qualitative interviews to uncover both correlational and
causal links between online polarization and a multidimensional perspective on mental health and



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wellbeing. Using advanced methods in statistical modeling, NLP, HCI, and experimental design, it will also test interventions, such as visual cues, to reduce harm and foster healthier browsing, delivering actionable insights for policymakers, mental health professionals, and platform designers.

Related publications from the projects' research groups:

Belal, M., Luong, N., Aledavood, T., & Kulshrestha, J. (2025). Stress Bytes: Decoding the Associations between Internet Use and Perceived Stress. arXiv preprint arXiv:2505.15377.

Chen, T. H. Y., Salloum, A., Gronow, A., Ylä-Anttila, T., & Kivelä, M. (2021). Polarization of climate politics results from partisan sorting: Evidence from Finnish Twittersphere. Global Environmental Change, 71, 102348.

Aledavood, T., Luong, N., Baryshnikov, I., Darst, R., Heikkilä, R., Holmén, J., ... & Isometsä, E. (2025). Multimodal digital phenotyping study in patients with major depressive episodes and healthy controls (mobile monitoring of mood): Observational longitudinal study. JMIR Mental Health, 12, e63622 Kacperski, C., Ulloa, R., Selb, P., Spitz, A., Bonnay, D., & Kulshrestha, J. (2025). Self-directed online information search can affect policy support: a randomized encouragement design with digital behavioral data. arXiv preprint arXiv:2501.03097.

Salloum, A., Quelle, D., Iannucci, L., Bovet, A., & Kivelä, M. (2025). Politics and polarization on Bluesky. arXiv preprint arXiv:2506.03443.

### What we offer

- A key position in an ambitious research project with backing of research groups at the top of their fields
- Access to data and expertise related to the projects. The doctoral and postdoctoral researchers will work closely and support each other on the project tasks.
- An interdisciplinary team that already understands each other and is producing results
- Freedom and support to pursue your own research ideas
- An environment where we care about your career development. For example, receiving mentoring, training on large-scale computing, or possibilities of mentoring PhD/MSc students and teaching, if that is what you are looking for
- Opportunity to work in Finland, which is a safe, peaceful, and stable society. It is well-organized and has very little bureaucracy. English is our working language and is widely spoken in the country. Finland is a great place for living with or without a family. Overall, Finland offers a high quality of life. You can find more information about living in Finland [url=https://www.aalto.fi/en/careers-at-aalto/living-in-finland]here. Many of our international alumni have decided to stay in Finland.
- Position in one or multiple of our research groups with highly diverse and international researchers
- Competitive salary: Postdoc: 4100 4300 Euro/month before taxes, depending on experience; Doctoral researcher: 2800-3500 Euro/month, depending on PhD progress. You can use



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[url=https://vero.fi/en/individuals/tax-cards-and-tax-returns/tax\_card/tax-percentage-calculator/]this tool to calculate your net income.

The successful candidates will receive additional funding to regularly attend international conferences and join the PI on research mobility outside of Finland to broaden their scientific networks and further promote their work.

The contract, moreover, includes comprehensive occupational health benefits, in addition to membership in Finland's social security system. Aalto University's main campus is located 15 minutes from downtown Helsinki and is surrounded by nature. Helsinki offers excellent flight connections to destinations around the world.

### Who are we looking for

As an ideal candidate, you should be motivated, open-minded, and independent while being capable and interested in collaborative work within the group and beyond. More specifically, you should demonstrate:

#### Doctoral researchers:

- \* Solid background in one of the following: computational social science, ubiquitous computing, data science, or human-computer interaction.
- \* Programming skills needed to do data analysis (we mainly use Python)
- \* You can be interested either in theoretical methods development or applications, or a bit of both
- \* Interest in working on a highly interdisciplinary project
- \* Interest in the topics of one of the two projects
- \* Bonus: Experience working with social media data, mental health, social networks, natural language processing, experiment design, or qualitative interviews
- \* Bonus: Knowledge of or enthusiasm for political science, psychology, or other fields related to the projects

### Postdoctoral researchers:

- \* Excellent research track record in computational social science, digital health, or polarization \*
- \* Demonstrated expertise in one (or more) of these fields: statistical methods, network science, content analysis, AI/ML, HCI, ubiquitous computing \*
- \* Exemplary writing skills
- \* Bonus: Experience working with social media data, mental health, social networks, natural language processing, experiment design, HCI, qualitative interviews, behavioral sensing, digital phenotyping



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- \* Bonus: Knowledge of or enthusiasm for political science, psychology, or other fields related to the projects
- \* We are hiring several people, so for each candidate, it is sufficient to have expertise in one of these fields only. The hired team will complement each other's expertise.

### How to apply

To join our research community, please submit your application through our recruitment system, Workday. All applications received by September 22, 2025, will receive full consideration. We will consider applications after this deadline until the positions are filled.

To apply, please upload the following materials as pdf files:

- \* Motivation letter (at most 1 page) including answers to the following questions: "How do your past studies/research work/publications fit these projects?", "Are there any other factors that make you a good fit for this position?" and "Do you have any preference or limitations for the start date?".
- \* Up-to-date CV + link to Google Scholar (or similar) profile (not necessary for PhD applicants)
- \* Doctoral researchers: study transcript

Please do not hesitate to contact us with any questions about your (potential) application before submitting. We will first collect applications; please do not expect an immediate reply to your application.

Please note: Aalto University's employees and visitors should apply for the position via our internal system Workday -> find jobs (not the external aalto.fi webpage on open positions) by using their existing Workday user account..

Aalto University reserves the right, for justified reasons, to leave the position open, to extend the application period, reopen the application process, and to consider candidates who have not submitted applications during the application period.

#### Further information:

- \* Projects' Pls Talayeh Aledavood, Juhi Kulshrestha, Mikko Kivelä (emails "[url=mailto:firstname.lastname@aalto.fi]firstname.lastname@aalto.fi") for research-related questions
- \* HR Advisor Susanna Holma, e-mail "hr-cs@aalto.fi" (for questions on the recruitment process and Aalto more generally)

About Aalto University / Aalto Computer Science



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Aalto University is a community of bold thinkers where science and art meet technology and business. We are committed to identifying and solving grand societal challenges and building an innovative future. Aalto has six schools with 14,000 students and a staff of 5000, of which more than 400 are professors. Our main campus is located in Espoo, Finland, 15 minutes from downtown Helsinki. Diversity is part of who we are, and we actively work to ensure our community's diversity and inclusiveness. This is why we warmly encourage qualified candidates from all backgrounds to join our community.

The Department of Computer Science is an internationally-oriented community and home to world-class research in modern computer science, combining research on foundations and innovative applications. With over 40 professors and more than 450 employees from 50 countries, it is the largest department at Aalto University and the leading computer science research unit in northern Europe. Computer science research at Aalto University ranks high in several international surveys (7th in Europe and 1st in the Nordics, NTU 2023; and top 100 worldwide in Times Higher Education subject ranking 2025).

Want to know more about us and your future colleagues? Here are some resources:

- \* Web: [url=http://aalto.fi]aalto.fi.
- \* Bluesky: @[url=http://aalto.fi]aalto.fi
- \* Facebook: [url=http://facebook.com/aaltouniversity]facebook.com/aaltouniversity
- \* Instagram: [url=http://instagram.com/aaltouniversity]instagram.com/aaltouniversity
- \* Video: [url=https://www.youtube.com/watch?v=5k\_og\_6zUJQ]Aalto University Towards a better world, [url=https://www.youtube.com/watch?v=dUfEGVM-ZP8&feature=youtu.be]Aalto People , and [url=https://www.youtube.com/watch?v=ZK6pDWm1\_CE]Shaping a Sustainable Future.
- \* Check out our new virtual campus experience: [url=https://virtualtour.aalto.fi/]https://virtualtour.aalto.fi/

To view information about Workday Accessibility, please click

[url=http://www.aalto.fi/en/services/workday-recruiting-system-accessibility-interaction-overview]here. More about Aalto University:

[url=https://www.aalto.fi/en/open-positions]Aalto.fi

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### **Contact Information**

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

Contact

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