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Posted Oct. 4, 2024, set to expire Feb. 3, 2025

Job Title Postdoctoral researcher in computational social

science (3+1 years)

Department T313 Dept. Computer Science

Institution Aalto University

, , Finland

Date Posted Oct. 4, 2024

Application Deadline Open until filled

Position Start Date Available immediately

Job Categories Post-Doc

Academic Field(s) Computer Science

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

Espoo-Finland/Postdoctoral-researcher-in-

computational-social-science--3-1-years-_R41072-3

Apply By Email

Job Description

Start date: 6 January 2025 or soon after

Post duration: 3 years in the first instance, with a 1-year extension negotiable

Location: Aalto University, Helsinki area, Finland

Professor Vili Lehdonvirta is hiring a postdoctoral researcher with computational social science skills to work on GEOCLOUD: The Geopolitics of Cloud Computing, a European Research Council Advanced Grant project. The project is concerned with mapping the changing geography of computation and understanding how it is shaped by the interaction of technology companies' business interests and governments' economic and security interests. The project's regional foci are Europe and East/Southeast Asia, and the broader context of U.S.-China technological rivarly.



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Responsibilities

The postdoctoral researcher will head a work package focused on measuring and mapping the geography of cloud computing. In particular, the work entails developing new ways of estimating and mapping which organizations, sectors, and countries are basing their digital infrastructures on which (cloud) platforms. The focus will be on public and financial sector organizations, two sectors that provide critical services to societies.

Methods already piloted for this work package include DNS queries, analysis of job advertisement data, and freedom of information requests. The aim is to scale up such experiments into a semi-automated data collection and visualization system that will serve as a public online resource for researchers, policy makers, and journalists interested in understanding whose computational infrastructures societies are depending upon and how this may be changing over time.

The postdoctoral researcher will be supported and supervised by Professor Lehdonvirta and assisted by a team of doctoral researchers, research assistants, and external specialists as needed in areas such as infrastructure engineering and data visualization.

This is a demanding postdoctoral position that requires strong technical and communication skills, and in return offers excellent career development opportunities, including co-authoring opportunities, graduate supervision opportunities, conference travel funding, training courses, access to academic networks in Helsinki, Oxford, and beyond, and support in grant writing. In particular, Professor Lehdonvirta is keen to support senior team members in ultimately developing their own ERC Starting Grant applications.

Selection criteria

Essential selection criteria (you should have all of these)

- 1. Doctoral degree (or confirmed doctoral defence date) in a relevant field, such as computer science, social data science, economics, political science, economics, sociology, or statistics
- 2. Computational data collection and processing skills, preferrably in Python, eg. scraping data from APIs and web interfaces, running automated DNS queries
- 3. Strong written and spoken communication skills in English, including academic, non-academic, technical, and non-technical audiences
- 4. Strong interest in global technology politics
- 5. Basic SQL database management skills
- 6. Basic statistical analysis skills, esp. linear regression



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7. Ability to manage one's own work as part of a team to meet deadlines

Additional selection criteria (you should have some of these)

- 1. Software engineering skills (relevant for building scripts to automate data collection in a fault-tolerant way)
- 2. Infrastructure engineering skills (relevant for setting up and administering development and production environments for such scripts)
- 3. Advanced statistical analysis skills, esp. time series analysis, spatial data analysis, multilevel modeling
- 4. Data visualization skills
- 5. Project management and team leadership skills
- 6. Understanding of Internet and cloud computing architectures
- 7. Previous publishing record in a relevant field

Principal investigator and community

The project's principal investigator, professor Vili Lehdonvirta, is a Finnish-British sociologist and political economist with a background in computer science. He is the recipient of three European Research Council grants, has served on high-level expert groups at the European Commission, and has published two books on digital economies translated to Japanese, Chinese, and Italian. He holds a dual appointment as Professor of Technology Policy, Department of Computer Science, Aalto University, and Professor of Economic Sociology and Digital Social Research, Oxford Internet Institute, University of Oxford.

The postdoctoral researcher position is part of Professor Lehdonvirta's new Aalto-Oxford joint research group, titled the Digital Economic Security Lab (DIESL). The multidisciplinary lab comprises both social and computer scientists. The lab's activities will include weekly cross-site virtual seminars, annual inperson workshops, and conference visits.

The position is physically based at Aalto's Department of Computer Science, one of the leading computer science research units in northern Europe. The department boasts a history of pioneering contributions to areas such as artificial intelligence and today hosts a growing community of computational social scientists. It is situated in the Helsinki area, also home to Nokia, the European Center of Excellence on Countering Hybrid Threats, the Finnish Institute of International Affairs, and a thriving cybersecurity and startup scene.

Helsinki is the capital of Finland, ranked as one of the most innovative countries in the world. Finland is



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home to Europe's fastest supercomputer LUMI, and Finland's European Commission Vice-President Henna Virkkunen is responsible for technological sovereignty, security, and democracy in the European Union. The World Happiness Report 2024 ranked Finland as the world's happiest country for the seventh year running.

Pay and benefits

The salary is approximately €4,000-€4,200 per month, depending on the successful candidate's skills and experience. Benefits include high-quality occupational healthcare, sports facilities, and training courses for supporting professional development. Support for relocation is available.

How to apply

Submit your application by 4 November 2024 via Aalto's online application system. Please include the following attachments:

- 1. CV
- 2. A cover letter that includes a point-by-point response to how your profile matches the selection criteria listed above (max. 1,500 words)
- 3. One writing sample, preferrably single-authored, demonstrating your academic writing skills, not necessarily on a related topic (approx. 1,000-8,000 words)

Please send any informal queries via email to [url=mailto:vili.lehdonvirta@aalto.fi]vili.lehdonvirta@aalto.fi with the word GEOCLOUD in the subject line. Please note that responses may be delayed.

Related publications

Lehdonvirta, V. Wu, B., and Hawkins, Z. (2023). Cloud empires' physical footprint: How trade and security politics shape the global expansion of U.S. and Chinese data centre infrastructures. Working paper. [url=https://dx.doi.org/10.2139/ssrn.4670764]http://dx.doi.org/10.2139/ssrn.4670764

Lehdonvirta, V. Wu, B., and Hawkins, Z. (2024). Compute North vs. Compute South: The Uneven Possibilities of Compute-based AI Governance Around the Globe. 7th AAAI/ACM Conference on AI, Ethics, and Society. San Jose, CA, October 21-23, 2024. [url=https://doi.org/10.31235/osf.io/8yp7z]https://doi.org/10.31235/osf.io/8yp7z



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Contact Information

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

Contact

Finland