SONJA M.H. TERVOLA

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EDUCATION

- PhD in Education (supervised by Prof. Jenny Gibson), University of Cambridge, UK (10/2025-Current)

  Early Career Committee Member of *Centre for Human Inspired Artificial Intelligence (CHIA)*

- MSc in Software and Service Engineering (Minor in ML and AI), Aalto University, Finland (1/2023-4/2025), GPA **4.76/5**

Thesis: *Unveiling the Mind in Action: Simulating Cognitive Reasoning in Behaviours with Large Language Model Persona Agents* (**5/5**)

- BSc in Computer Science (Minor in Industrial Management and Engineering), Aalto University, Finland (9/2019-12/2022)
- International Baccalaureate Diploma, Helsingin Suomalainen Yhteiskoulu (8/2015-5/2018)

STUDY ABROAD

- MSc in Computer Science, KTH Royal Institute of Technology, Sweden (1/2024-6/2024)
- BSc in Computer Science, Delft University of Technology, Netherlands (9/2018-1/2019)

RESEARCH EXPERIENCE

Journal Publications

- Lu T., **Tervola S**., et al. (2021) A Novel Methodology for the Path Alignment of Visual SLAM in Indoor Construction Inspection. **Automation in Construction**, Vol. 127, 103723.
  https://www.sciencedirect.com/science/article/abs/pii/S0926580521001746?via%3Dihub
- X Tu, Salminen J., Amin D., **Tervola, S.** et al. (2025). "Pathways to the Metaverse": Exploring the User Experience Mechanisms Driving Technology Acceptance in Virtual Lab Visits with an LLM-powered Persona (Submitted to ACM Conference on Intelligent User Interfaces)
- X Tu, Salminen J., Amin D., **Tervola, S.** et al. (2025). Personas Escaping the Matrix: How Realism and Immersion Affect User Perceptions in a Virtual Lab Tour in Metaverse (Submitted to ACM CHI conference on Human Factors in Computing Systems)
- Amin, D., Salminen, J., Ahmed, F., **Tervola, S**. et al. (2025). How Is Generative AI Used for Persona Development?: A Systematic Review of 52 Research Articles. arXiv preprint arXiv:2504.04927. (Also submitted to ACM Computing Surveys)
- Minina T**., Tervola S**. et al., From Empathy to Strategy? A Lifecycle-Based Review of Psychological and Marketing Perspectives on User Personas (Submitted to Psychology & Marketing)
- **Tervola S**. et al., Unveiling the Mind in Action: Simulating Cognitive Reasoning in Behaviours with Large Language Model Persona Agents (Ongoing)
- **Tervola S.,** Gibson JL., Social Robotics and AI Agents for Neurodivergent-Inclusive Education: A Scoping Review (Ongoing)

Individual project on Generative AI and Question Based Learning, KTH (1/2024-6/2024)
Supervised by Prof. Olle Bälter, KTH Royal Institute of Technology, Sweden

EU funded smart farming Agriscale project, Uganda (9/2023)
Collaborated with Prof. Marko Nieminen, Aalto University, Finland

WORK EXPERIENCE

Data Scientist (Product Insights), Trimble Inc. (5/2025—9/2025)
Applying AI and data science to largescale and complex (size: 100M+) datasets, which have not been previously analysed due to their difficulty.

Data Analyst Trainee (Customer Insights and Data Analytics), Trimble Inc. (5/2023—5/2025)
Selected from 250+ applicants; worked on data engineering and modelling. More recently, my master's thesis: *Unveiling the Mind in Action: Simulating Cognitive Reasoning in Behaviours with Large Language Model Persona Agents* (5/5) findings and novel methodologies have been leveraged for other projects.

Teaching Assistant for [Program Development for Interactive Media](), KTH Royal Institute of Technology, Sweden (1/2024-6/2024)
Developed teaching materials using generative AI and student-centered methodologies to teach SQL to students.

Hourly employee (IT, Reporting and Analytics Product Area), Neste Oyj (10/2022-12/2022)
Reviewed and updated Information and Knowledge Management articles in ServiceNow; collaborated closely with product managers.
(*ServiceNow: a cloud computing platform for managing digital workflows in enterprise operations*)

Summer Trainee (IT, Reporting and Analytics Product Area), Neste Oyj (520/22-9/2022)
Selected from 160+ applicants; supported key data warehouse projects; provided application maintenance support for reporting tools; improved service quality and documentation; managed key stakeholders; supported vendor management.

Software Developer, Motivated Partners Oy (10/2021-4/2022)
Developed and designed a gym nudge mobile app* with a team of seven students; utilised React Native and TypeScript; managed projects using Agile SCRUM methodology.
(*Gym nudge mobile app: tracks and analyses user behaviour/experience, reinforcing positive behaviour through rewards*)

Webflow Developer & SEO (Search Engine Optimisation) Engineer, Basic Fashion Oy (9/2021-3/2022)
Built a new website using Webflow; collected, processed, and analysed data with analytics tools such as Google Analytics to enhance website visibility; collaborated with design and marketing teams to maximise customer engagement and value.

Programming I Course Assistant, Aalto University, Finland (9/2020-12/2021)
Supervised students in weekly programming challenges for a Scala course with 1000+ students; reviewed and graded coding projects.

Head of Technology, Aalto Entrepreneurship Society project Series (5/2021-10/2021)
Led a technical development team in the innovation program of Aalto Entrepreneurship Society; oversaw technical processes and provided technical advice; coordinated the launch of the website and project operations; collaborated closely with the marketing team.

Project Assistant, Small Data Garden Oy (6/2021- 9/2021)
Focused on business development; utilised competitive intelligence methods to design the website and build an effective customer engagement strategy; contributed to marketing collateral design.

RESEARCH INTERESTS

Social Robots, Human-Centered Technology, Human-AI Interaction, Generative AI, Large Language Models (LLM), Neurodiversity, Developmental Psychology, Education, Cognitive Science, Participatory Design

HOBBIES

Aalto Entrepreneurship Society, Startups and Innovation Culture, Positive Social Impact, Classical Music, Hiking

ADDITIONAL EXPERIENCE

- Board Member, Engineering Students Exploring Research - EStER: (1/2024—1/2025)
- Co-Head of Hackathon Platform Marketing, Junction: (3/2023—6/2023)
- Group Lead, Slush: Buddy Team (9/2022-11/2022)
- Volunteer, Junction: Marketing Team (9/2022-11/2022); UX/UI Website Team (11/2021-1/2022); Info Team (11/2021)

AWARDS & HONOURS

- Travel Grant for Smartfarming Agricale project, Uganda (9/2023)
- Travel Grant for 20 Companies in Silicon Valley, California, USA (12/2021)
- Chemistry Research Paper Qualified for Final Round (36 selected from 176 applicants), TuKoKe (2018)
- High School Chemistry Award (2018)
- Ranked 40th, National High School Mathematics Competition MAOL (2017)
- Ranked Top 20, Kangaroo Mathematics Competition (2015)
  Ranked 71st, National Middle School Mathematics Competition MAOL (2014)