

We are looking for two PhD students to join the team for a three-year research project “Transforming New Zealand’s ICT workforce using digital personalized interactive training”.

Project summary:

In New Zealand and worldwide there is an unprecedented demand for ICT professionals, who possess both technical and transferable skills such as team and intercultural skills, communication, negotiation, empathy, strategic thinking and leadership. Such skills are typically gained only slowly over time. Traditional transferable skill training (e.g., training workshops, coaching) are expensive and not scalable.

Over three years, we will develop an online training platform for transferable skills and an interactive and personalised learning approach for transferable skills based on active video watching. This platform will be geared towards professionals in the software industry in technical and non-technical roles. We will also develop a novel transferable skills assessment framework to benchmark software development productivity.

The research is at the intersection of Artificial Intelligence in Education and Software Engineering.

See also: <https://www.canterbury.ac.nz/news/2021/targeted-approach-to-developing-soft-skills-in-ict-sector.html>

What you will do

The candidates will join the University of Canterbury team consisting of Professor Tanja Mitrovic, Associate Professor Matthias Galster, both from the Department of Computer Science and Software Engineering, and Associate Professor Sanna Malinen from the Department of Management, Marketing and Entrepreneurship. The research will be performed in collaboration with our overseas partner, Professor Vania Dimitrova, University of Leeds, UK.

The successful applicants will work with the supervisory team to determine their main research focus within the research project. The PhD students will engage in all aspects of this research, from design, implementation and evaluation.

One PhD scholarship will be more oriented towards Software Engineering. This part of the project focuses on the “soft” and human side of software engineering and how software professionals in technical and non-technical roles work (either as individuals or in teams) and the challenges they face. This part of the project will also study transferable skills for software professionals based on role, activities, background work context, as well as investigate how we can assess transferable skills in software professionals. The research will require engaging with industry and other interested parties, collecting and analysing qualitative and quantitative data, developing assessment instruments, developing research prototypes, and conducting user studies.

The other PhD scholarship will be more oriented towards Artificial Intelligence in Education, and will involve developing cognitive models, methods for learning modelling, as well as designing, conducting and analysing data collected from user studies.

Both PhD students will also collaborate with a number of technology companies to develop a solution which will meet the needs of industry.

You will be a part of an innovative research team and have the opportunity to engage and co-lead in research publication in top journals and share your knowledge at relevant events and conferences.

Location

The research will be performed at the University of Canterbury, Christchurch, New Zealand. Christchurch is known as the garden city, and the University of Canterbury has a beautiful and lively campus.

Financial support

The funding includes tuition fees, a scholarship of NZ\$30,000 per annum and reasonable research expenses.

Eligibility and selection

Both domestic applicants and international candidates will be considered. Applicants must meet the eligibility criteria for PhD admission:

<https://www.canterbury.ac.nz/postgraduate/phd-and-doctoral-study/>

Required background:

- Degree in Software Engineering, Computer Science, or related discipline
- Strong technical skills (programming, etc.)
- Experience in qualitative and quantitative research methods
- Basic statistics and data mining skills
- Strong oral and written communication skills
- Experience with and in industry is an advantage

The deadline for applications is October 31, 2021. Applicants are expected to start in a timely fashion upon receipt of an offer. Extended deferral periods are not available.

Please email the following documents to tanja.mitrovic@canterbury.ac.nz and mattias.galster@canterbury.ac.nz:

- CV (including publications, if any)
- Contact information of (three) referees
- Most recent academic transcripts (undergraduate and post-graduate, i.e., BSc/BE and MSc/ME)
- One-page statement outlining a potential research idea, the research problem, potential research questions, motivation and relevance
- Copy of any thesis