PhD position in ad-hoc shared transport

At the University of Melbourne there is an opening (scholarship) for a PhD student in the area of intelligent transportation systems (for students with a background in computer science, geoinformatics, transportation engineering or related).

Topic:

Sharing transport capacity is an underdeveloped option to reduce individual traffic and emissions, and yet increase mobility. In a new interdisciplinary project we will develop algorithms for the ad-hoc sharing of transport capacity (ride sharing, car sharing, bike sharing), and especially focus on identifying the relevant information for doing so in a smart environment where passengers, vehicles and roadside infrastructure can communicate in an ad-hoc manner. Travel planning in this dynamic environment requires directed and heuristic search for travel information deep in decentralized networks.

The research will complement the work of another PhD student in this project who will investigate novel multidimensional routing protocols to support delay sensitive applications in heterogeneous networks.

Required:

- Candidates have to fulfil the entry requirements for a PhD at the University of Melbourne (https://handbook.unimelb.edu.au/view/2009/351-AA)
- H1 degree in geoinformatics, computer science, transportation engineering or related
- Research training (e.g., from a research project at the end of a masters programme)

Desired:

- Interest and ability to contribute to world-leading research
- Experience in spatial / spatiotemporal information, e.g., in intelligent transport systems, geosensor networks, spatial data infrastructure, cooperative agents, or similar
- Good programming skills in object-oriented languages
- Good communication skills, written and orally

Terms:

The full scholarship is funded by National ICT Australia (NICTA) for three years, which can be extended for another six months. Furthermore, overseas students of a scholarship score of 80 or above are eligible for a fee relief from the Melbourne School of Engineering (the scholarship score will be determined internally from your marks, publications, and university standing).

With this level of funding, and excellent free social services on campus, students can easily live in Melbourne, one of the most liveable cities in the world.

The application deadline is 15 May 2011, for a start as soon as possible (the position is vacant).

About NICTA:

NICTA is Australia's ICT Centre of Excellence. It is the largest organisation in Australia dedicated to ICT research. NICTA focuses on use-inspired basic research to address the technology challenges facing industry, community and the national interest.

NICTA offers prospective students an enhanced PhD program with access to specialist coursework; world-class supervision in a challenging and supporting environment; practical research with industry and domain experience; professional skills development by offering courses in project management, commercialisation and communication; placement in a particular NICTA research program with the opportunity to work on state-of-the-art research; opportunities to work on development and commercialisation projects; research internships; and world-class infrastructure.

NICTA also has a strong emphasis on use-inspired research that has the potential to be commercialised. Hence, students have an opportunity to work on research projects that may lead to commercialisation opportunities.

For more information, visit: www.nicta.com.au

About the University of Melbourne:

The University of Melbourne is a research-intensive institution. In all international rankings it is among the top 100 universities in the world. Its School of Engineering is ranking even higher.

For more information, visit: www.unimelb.edu.au

References to previous work:

A short paper giving you a flavour of previous (related) work is: Winter, S. (2008): Intelligent Self-Organizing Transport. Künstliche Intelligenz, 08 (3): 25-28. In the past the group has won several prizes in this area.

How to apply:

General information on the application process can be found here: http://www.ie.unimelb.edu.au/future/future_phd.html. The first step is making contact by email with the academic supervisor, A/Prof Stephan Winter, winter@unimelb.edu.au. Your email should contain in the body your motivation to apply, and in the attachments a CV and your transcripts.

All email applications sent in by 15 May 2011 will be considered. Applications by women are highly encouraged.