



School of Computing, Engineering, and the Built Environment Edinburgh Napier University

PHD STUDENT PROJECT

Funding and application details

Funding status: Self funded students only

Application instructions:

Detailed instructions are available at <https://blogs.napier.ac.uk/scebe-research/available-phd-student-projects/>

Prospective candidates are encouraged to contact the Director of Studies (see details below) to discuss the project and their suitability for it.

Project details

Supervisory Team:

- DIRECTOR OF STUDY: Professor Wafaa Saleh (Email: W.Saleh@napier.ac.uk)
- 2ND SUPERVISOR: Professor Ahmed Al-Dubai, Computing

Subject Group: Built environment

Research Areas: Civil Engineering

Project Title: The role of smart phone data and travel information to improve travel planning and sustainability

Project description:

Mobile phones have had an intense impact on travel behaviour and the way people make travel decisions. They have become a critical tool for travelers' decisions on how to plan and carry out their travel activities.

Many aspects of journey planning, obtaining real-time of private and public transportation networks, traffic conditions and navigation software are currently available and accessible using mobile phones. This information can greatly help in forming travel behaviour decisions. Moreover, mobile applications permit travelers access to book online travel options such as trains, taxis, planes and other options

of travel. Mobile apps use many sources of information and data including AI to offer personalized travel suggestions and information about many choices.

The aim of this research is to investigate how mobile apps can be utilised to assess and design better travel options using the smart travel options that have become a reality over the last decade or so, in order to provide integrated planning tools for many modes of transportation, including buses, subways, taxis, and bike-sharing, encouraging travelers to use more sustainable and efficient transportation options.

References:

- [1] Zhang, J., & Shen, Z. (2019). The Impacts of Mobile Phones on Travel Behavior: A Review of the Literature. *Transportation Research Interdisciplinary Perspectives*, 3, 100077. DOI.
- [2] Wang, D., Park, S., & Fesenmaier, D. R. (2012). The Role of Smartphones in Mediating the Touristic Experience. *Journal of Travel Research*, 51(4), 371-387. DOI.
- [3] Gretzel, U., Sigala, M., Xiang, Z., & Koo, C. (2015). Smart Tourism: Foundations and Developments. *Electronic Markets*, 25(3), 179-188. DOI.

Candidate characteristics

Education:

A first-class honours degree, or a distinction at master level, or equivalent achievements in Engineering or a relevant subject

Subject knowledge:

- Engineering,
- Computing

Essential attributes:

- Research skills, Data analysis, Good writing skills,

Desirable attributes:

- Programing, Advanced data analysis,