

University of Dundee

Ruo-Qian Wang

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University Partner:

University of Dundee

Academic Supervisor - Name and Email Address:

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Suggested Project Title:

Big-data and AI-based personalised flood preparation and evacuation system

Suggested Project Summary:

This project is targeted to couple a coastal flood model and a transportation network with the big-data flood monitoring platform that we developed in Wang et al. (2018). The coupling will allow us to use the flood model to predict the flood development and the transportation model to optimise the flood evacuation routes. A robot in a social media and mobile phone app will be created to send personalized suggestions of flood preparation and evacuation routes as well as to interact with the users to enhance stakeholder engagement.

Reference:

Wang, R. Q., Mao, H., Wang, Y., Rae, C., & Shaw, W. (2018). Hyper-resolution monitoring of urban flooding with social media and crowdsourcing data. *Computers & Geosciences*, 111, 139-147.

Collaboration Sought for the Project:

We are looking for an industrial partner who is willing to contribute 50% of the cost of the PhD programme. Expertise in transportation network modelling is desired. Expertise in flood modelling and/or infrastructure is a plus. The company's contribution of transportation network will largely enhance the evacuation route optimisation component in this project.

Benefit to the Industry Sponsor:

This will be a good opportunity to make an innovative and useful tool in the field and potentially extend the scope of the company's service and market. This collaboration will also allow the company access the frontier knowledge of AI and big data.

Published or Private?:

Yes