

## Signals, Information and Communications Research Institute Centre for Signal and Information Processing

## Real-time Automatic Target Recognition of Naval Mines with Autonomous Underwater Vehicle Sonar Imaging

This project aims to develop a real-time automatic system for locating and recognising different types of naval mines, using sonar images captured by autonomous underwater vehicles. To address this important defence application, the PhD candidate will investigate the latest advances in deep learning and artificial intelligence for object detection, image segmentation, and image classification.

The project is conducted in collaboration with Defence Science Technology Group, and it is jointly supported by the University of Wollongong and the NSW Defence Innovation Network. The PhD candidate is supervised by Associate Professor Son Lam Phung (phung@uow.edu.au) and Professor Christian Ritz (critz@uow.edu.au).

The PhD scholarship includes: i) a living stipend of AUD 27,596 a year for 3.5 years (tax free); ii) a tuition fee waiver worth AUD 38,496 a year; iii) a top-up scholarship of AUD 5,500 (tax free). The project also has additional funding of AUD 12,000 for related activities.

## Selection criteria:

- 1. An Honours degree or a Masters degree in computer engineering, electrical engineering, computer science, or related fields;
- 2. Australian citizen (must be);
- 3. Good communication, interpersonal, and team-work skills;
- 4. Experience in signal and image processing, machine learning, and pattern recognition;
- 5. Ability to start as soon as possible.

Interested candidates should send their Curriculum Vitae, academic transcripts, two referee letters, and a one-page overview of their research experience, as a single PDF file, to phung@uow.edu.au.

Closing Date: 30 September 2019, or until a suitable candidate is found.

