



THE UNIVERSITY
of ADELAIDE



Faculty of Engineering, Computer and Mathematical Sciences

RF DIGITAL SIGNAL PROCESSING FOR WIRELESS RANGING AND LOCALISATION

Up for a challenge? Join us to work on a research project in conjunction with Codan and the Playford Trust

At a Glance

Who can apply?

- Australian Citizens
- Australian Permanent Residents

Industry partner or funding body

- Codan <https://codan.com.au/>

- Playford Trust <https://playfordtrust.com.au/>

Program of Study available

- Doctor of Philosophy (PhD)

Total annual stipend amount

- \$38,000pa (2021 rates if Commonwealth RTP scholarship secured)

Start date

- Plan for a start date of no later than May 2021.

About the project

Codan has formed a Research & Technology group to focus on core and emerging technologies related to the field of Situational Awareness. Initial focus for this group will be the development of dissimilar technologies to support GPS-denied ranging, location, tracking and navigation. Ultimately the intent is to de-risk technology components suitable for product development and then to integrate technologies in order to develop a hybrid non-GPS solution based upon visual, inertial and radio frequency data.

We are looking for a highly-motivated, creative problem solver and an RF Signal Processing Researcher with an understanding of RF-based location technologies and related fields (RF ranging and angle-of-arrival

techniques, estimation theory, proximity detection, and error modeling).

Your aim is to build a real-time localization system to be used in GPS denied positioning. You will contribute towards inventing and designing systems to solve interesting problems in RF ranging, angle-of-arrival, Computer vision, WiFi, indoor positioning, iBeacon, dead reckoning, and other sensor fused location-related technologies.

Eligibility criteria

- The ideal candidate is a fast learner and will have a strong theoretical and practical understanding of RF DSP
- Excellent students with relevant knowledge in location or signal processing field (angle-of-arrival, WiFi, GPS/GNSS, computer science, or related field)
- People proficient in C/C++ and data analysis tool such as MATLAB would be especially suitable and encouraged to apply.
- Knowledgeable about RF propagation and modelling, with the ability to prototype systems for technology evaluation, algorithm development, and error modelling.
- An understanding of sensor fusion and image processing is a plus and skills around App development for mobile phones and/or unix system development is highly regarded.
- Applicants with well-developed written and verbal communication skills will be considered favourably.
- Students applying for this scholarship should plan for a start date as soon as possible.
- Be willing to provide your personal details to Codan by way of a Student Deed Poll.

Benefits

- Access to authorised travel and research project funds available
- Work alongside world leading researchers
- Our CaRST program: Free professional development to enhance your employability skills
- Exposure to industry networks and experts in the field
- No Tuition fees! These are waived for eligible candidates
- Access state of the art technology
- Become a field expert and make a real and contribute to solving global challenges
- Publish your contributions and impact our communities and society.

How to apply

- Complete an [expression of interest](#) and email together with a copy of your CV and transcripts to brian.ng@adelaide.edu.au
- Once you have an academic reference from your University, lodge an application through the Playford scholarships website <https://playfordtrust.com.au/project/codan-playford-trust-phd-scholarships/>
- Once you are accepted, formally lodge an application for admission and scholarship via the Adelaide Graduate Centre 'How to Apply' [link](#).

Researcher Profiles

- Use our [Researcher Profiles](#) to find out more about your potential supervisor

More about ECMS

The Faculty of Engineering, Computer and Mathematical Sciences is home to world-class research institutes and centres, and internationally renowned

academics at the cutting edge of research and discovery.

We are a thriving centre of learning, teaching and research in a vast range of engineering disciplines, computer science, machine learning and high-level mathematics as well as designing Human-centred, sustainable futures in our School of Architecture and Built Environments.

Many of our academic staff are leaders in their fields and graduates are highly regarded by employers.

Learn more about the Faculty of Engineering, Computer and Mathematical Science's Research capabilities at: <https://ecms.adelaide.edu.au/research-impact>

The University of Adelaide is an Equal Employment Opportunity employer. Women and Aboriginal and Torres Strait Islander people who meet the position requirements are strongly encouraged to apply.

FURTHER INFORMATION

For a confidential discussion contact:

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