

Ivan Ang Jie Xiong

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Research Interests

- Embedded systems and robotics
- Decision making under uncertainty, robot motion planning
- Assurance of autonomous systems
- Augmented Reality

Education

Australian National University, Canberra (June 2021 – Present)

Doctor of Philosophy, Computer Science

- ANU PhD Scholarship and ANU HDR Fee Remission Merit Scholarship Recipient
- Research Project: Assurance of Autonomous Robots
 - ✓ Develop new online algorithms to solve multi-objective and constraint POMDP problems
 - ✓ Develop comprehensive testing framework to produce standardized safety rating for autonomous robots

Curtin University, Sarawak Malaysia (2016 - 2019)

First Class Honours, Bachelor of Electronic and Communication Engineering (Honours)

- Vice-Chancellor's List (Top 1%), Dean's List (Highest Score) and Commendation Award Recipient
- Final Year Research Project – Enhancing STEM Education using Augmented Reality and Machine Learning
 - ✓ Conducted research on computationally efficient Convolutional Neural Networks on mobile applications
 - ✓ Proposed novel Multistage Inferencing Approach on training large image datasets
 - ✓ Developed using TensorFlow, Google Cloud Platform, Android Studio
 - ✓ Champion at Innovate Malaysia Design Competition 2019: Google Technology Track
 - ✓ Champion at Innovate Sarawak Design Competition: Open Category
 - ✓ 1st Runner Up at Innovate Malaysia Design Competition 2019: MDEC Digital Tech Award

Work Experience

Australian National University, Canberra (June 2023 – November 2023)

Tutor, Advanced Topics in Artificial Intelligence (COMP4620/8620)

Intel Corporation, Penang (Dec 2018 – Feb 2019)

Platform Application Engineering Intern

- Successfully developed Register Information Consistency Tool (Python)
- Tool able to detect and extract register name, address and corresponding information from different file formats, shortening review time from days to seconds

Intel Corporation, Penang (Dec 2017 – Feb 2018)

Software Engineering Intern (Firmware)

- Successfully created and developed EDKII GUID Search Tool (Python, JavaScript, Flask, HTML, CSS)
- Underwent UEFI/ coreboot training and embedded software development

IEEE Student Branch, Curtin University Malaysia (2017 – 2019)

Head of Technical Division

- Lead a team of 8 students to create and develop projects (IOT devices, omniwheel vehicle, solar bus stop)
- Successfully organized a Science and Technology Exhibition in partnership with TEGAS which attracted over 3000 visitors
- Successfully launched a Makerspace in campus to encourage the growth of Maker Movement in Miri
- Conducted Augmented Reality workshop using Unity and Vuforia SDK

Awards and Achievements

- Champion at Innovate Malaysia: Google Track (2019)
- 1st Runner-up at MDEC Digital Tech Award (2019)
- Champion at ICSCC HackWknd Hackathon (2019)
- Champion at Innovate Sarawak Design Challenge (2019)
- 2nd Runner-up at The Grand Challenge Kuching (2018)
- Champion at Young Innovators Challenge (2018)
- 2nd Runner-up at IDECS HackWknd Hackathon (2018)
- Rank 9th in Malaysia at IEEEExtreme11.0 (2017)
- Regional Finalist, Google Science Fair (2012)
- Runner-up at World Robot Olympiad (2011)
- Excellence Award at World Robot Olympiad (2010)
- Champion at Mighty Minds National Challenge (2009)

Publications

Conference Papers

- I. Ang and H. Kurniawati, "A POMDP Approach for Safety Assessment of Autonomous Cars", (Accepted), International Workshop on the Algorithmic Foundations of Robotics (WAFR) 2024.
- I. J. X. Ang and K. H. Lim, "Enhancing STEM Education using Augmented Reality and Machine Learning," 2019 7th International Conference on Smart Computing & Communications (ICSCC), Sarawak, Malaysia, 2019, pp. 1-5.

Journal Paper

- I. J. X. Ang and K. H. Lim, "Multistage Inferencing Approach on Large Datasets in Enhancing STEM Education", ASM Science Journal 13: Special Issue 2, 2020 on Smart Computational Intelligence for a Digital World, 2020, pp. 1-8.