Alexander Mark Cunio

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CAREER PROFILE

- Currently in the fifth year of a double degree of Computer Science and Mechatronic Engineering
- Ensure an ongoing commitment to broadening my skillset through new challenges while revolutionising the interaction with and use of technology
- Collaborate with diverse teams to develop working machines and systems in technical projects
- Motivate students with creative and engaging activities through tutoring and teaching

EDUCATION

Bachelor of Computer Science / Mechatronic Engineering – WAM: 92.185 2018 – Present
University of New South Wales Sydney
- Awarded coveted the UNSW Engineering Dean's award in 2019, 2020, and 2021 for being in the top 100 students enrolled across engineering at UNSW

Higher School Certificate - ATAR: 98.85 2017
Cranbrook School
- Finished high school in the top two per cent of New South Wales students

TECHNICAL PROJECTS

Personal Smart Home Control System May 2018 – Present
- Developing a web-based system for interfacing with and innovating on existing technology by introducing internet of things (IOT) connectedness to devices
- Undertook backend development in python to generate a software system including user management, device state tracking, and hardware interaction
- Applied self-taught design and development concepts in JavaScript, HTML, and CSS to build a functioning software system enabling simpler control of lighting and comfort systems

Education Algorithm Visualiser Mar 2021 – Dec 2021
Computer Science and Engineering Society, UNSW Sydney
- Collaborated to design from scratch a software system allowing for a visual representation of technical computer algorithms for aid in student education
- Participated in meetings to present and review ideas alongside other keen students to formulate an ideal feature set by combining everyone's perspectives
- Enhanced my own skills learning new software tools by approaching new challenges to produce an interactive environment in React

Simulated Wheeled Robot Controller Jun 2021 – Aug 2021
Mechatronic Engineering course, UNSW Sydney
- Applied skills in robotics controllers, pathfinding algorithms, and computer vision to implement a controller in C++ and python for a mobile robot to map out a maze and find the shortest path through it
- Developed extensions for control over TCP/IP with live video feed, autonomous maze mapping (for micro mouse competition), obstacle avoidance, and a graphical user interface
- Awarded first place as a group of three for the best implementation across the whole cohort

Unmanned Ground Vehicle Controller Sep 2020 – Dec 2020
Mechatronic Engineering course, UNSW Sydney

- Produced a C++ controller using visual studio for an unmanned ground vehicle to integrate the complex system of input and output devices into a single unit
- Applied object-oriented programming (OOP) techniques to construct a more maintainable system
- Learnt about the integration of individual software packages through inter-process communication and process management modules

WORK EXPERIENCE

Junior Software Engineer Dec 2021 – Present
Hullbot

- Advance the underwater robot platform as an intern on the software team, invited to stay on part-time
- Perform field testing to validate the performance of advancements completed by myself and others
- Improve robot assembly workflows by designing an online tool that reads and analyses sensor data
- Revamp the robot's user interface to simplify and streamline control and monitoring of essential onboard systems permitting further robot operations

Academic Tutor Sep 2020 – Present
Mechatronic Engineering, UNSW Sydney

- Led students through the development of robot controllers within an online environment
- Supervised assessment tasks involving both one-on-one and group sessions
- Achieved an overall 95.9% satisfaction rate from students

Robotics Educator Aug 2018 – Dec 2021
Cranbrook School

- Engaged a class of 15 high school students by designing and leading engineering problems
- Developed engineering skills in mechanical design and programming using LEGO's educational platform
- Extended mechatronic and software engineering into the classroom through the school's STEM program

Academic Tutor Jun 2020 – Aug 2021
Biomedical Engineering, UNSW Sydney

- Collaborated with tutors and lecturers to generate an online course for distance learning during COVID-19 and a second modified version for an in-person setting
- Mentored classes of 30-40 first-year students in a variety of engineering skills required to produce a functional prototype of a medical device based on the Arduino electronics platform
- Weighed up options with students and teachers to support the rapid transition of course delivery and assessment online as lockdowns were introduced across Sydney

Academic Tutor Sep 2020 – Dec 2020
Nura Gili, UNSW Sydney

- Assisted in empowering and increasing the outcomes of indigenous students studying at UNSW through the Nura Gili Indigenous tuition program (ITP)
- Supported a student in one-on-one sessions in their mechatronics engineering programming course

REFEREES

References available upon request