Luke Eyles

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Education

Bachelor of Mechanical and Mechatronic Engineering (Honours), 2017 – 2022
Diploma in Professional Engineering Practice
University of Technology Sydney

- GPA: 6.56/7.00, High Distinction average.
- Capstone: Designed and programmed control software for the JEXO exoskeleton arm at UTS Robotics Institute.
- Robotics: Led team to program a robot arm to play tic-tac-toe with a person.
- Sensors and Control: Led team to program a TurtleBot to recognise markers, determine their position and rotation and drive towards them.

Experience

Technology Consulting Intern Nov 2021 – July 2022
Isle Utilities

- Performed comprehensive horizon scans to assess the technology landscape on areas including water conservation, advanced sludge treatment, and waste to energy.
- Assisted in design and running of workshops with water utilities, and post-workshop analysis to identify common technology needs between different water utilities.
- Created communication materials including reports, newsletters, videos, and presentations for technical and non-technical audiences.

Engineering Intern in Research and Development Department Aug 2019 – Feb 2020
Jenkins Engineering Defence Systems

- Created system to autonomously record sensor data from an IMU to a single board computer using C++.
- Created Signal Generator GUI application in MATLAB that interfaced with software defined radios to transmit pre-set or user defined signals.
- Developed Signal Analyser GUI in MATLAB, allowing a quick overview of signal characteristics, or in-depth analysis.

Assistant Lab Tutor for Introduction to Electrical Engineering Mar 2018 – Jun 2018
University of Technology Sydney

- Explained electrical concepts and components.
- Debugged students' circuits and walked through how to fix the error.

Skills

Technical Skills

- **C++:** Object oriented programming, using threads to process and send multiple streams of data, using CMake.
- **MATLAB**: Image processing, signal processing, robotics using Peter Corke's Robotics Toolbox and ROS Toolbox, GUI programming using App Designer.
- **Robot Operating System (ROS)**: Controlling real and simulated robots in MATLAB and C++, processing incoming sensor messages, visualising using RViz.
- **Microcontrollers**: Interfacing with sensors, controlling LCD screen and motors, using timers.
- **Python**: Scripting, data processing using pandas, interfacing with APIs.
- **Git**: Version control and collaboration.
- **CAD***:*
    - **Solidworks**: Designing parts, performing FEA, creating assemblies, creating and interpreting technical drawings.
    - **Blender**: Creating meshes, using modifiers, applying procedural and image-based textures.
    - **AutoCAD**: 2D drawing, 3D modelling, annotation.
- **Microsoft Excel:** Recording data, using formulas, creating charts, sorting and filtering data.
- **Microsoft Office**

Core Skills

- **Team leadership:** Successfully divided work between team members, coordinated different parts of the project, organised team meetings, and ensured deadlines were met for the major robotics project in Sensors and Control.
- **Verbal communication skills:** Listened to requirements and drafted a formal project specification, participated in team meetings by contributing new ideas and adding to others' ideas, and gave project updates and presentations when working a university project in collaboration with Thales.
- **Written communication skills:** Wrote reports, newsletters, and technology webinar invitations which were sent to an audience of over 600 water utility engineers and innovation leads while working at Isle Utilities.
- **Visual communication skills**: Illustrated diagrams to communicate concepts to others clearly in presentations, reports, and tutoring.
- **Time management:** Tracked tasks for team and individual projects using project management software, set deadlines for project milestones, worked flexibly to changing requirements, and used calendar to manage deadlines for work and university.

References

Available on request.