Lochlan Sharkey

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CAREER PROFILE

I have over three years of professional experience and six years of personal experience in designing, developing, testing and troubleshooting mechatronic systems and components for various applications. Thus, I am proficient in using CAD/CAM software such as Fusion360, Inventor, AutoCAD, and MATLAB, skilled in programming languages such as Python, C++, C and Visual Basic and knowledgeable in electrical, mechanical, pneumatic, and hydraulic principles and systems.

PROFESSIONAL EXPERIENCE

Barwon Water, Geelong   Oct 2020 – Current

Strategic Asset Management   Nov 2022 – Current

- Enhancing the asset database (Maximo) by updating missing and outdated information.
- Preparing Business Needs Assessments for upcoming projects.
- Collaborating with an external company using artificial intelligence (AI) modelling and Failure Mode Effects and Criticality Analysis (FMECA) to improve site inspections and maintenance frequencies.
- Managing a project involving repairing and installing a penstock at the main sewage treatment plant.

Technical Services   Oct 2021 – Nov 2022

- Revised outdated electrical drawings to align with the new filing system and site changes.
- Assisted in programming and testing PLCs / RTUs for various water and sewerage systems.
- Assisted in inspecting and maintaining radio antennas for remote site communication and operations.

Enterprise Project Delivery   Oct 2020 – Oct 2021

- Collaborated with the Intelligent Water Network (IWN) panel to test AI-based defect detection in sewer CCTV and jetting footage given a variety of conditions.
- Published a report on the trial results summarising the effectiveness of using AI to detect defects within sewer relining and rehabilitation project.
- Wrote multiple macros to better ingest contractor data as part of the sewer rehabilitation project.

EARLY CAREER EXPERIENCE

- Casual IT Support, St. Bede's College, Mentone.   Dec 2018 – Jan 2020
- Waiter / Barrister, Gloria Jean's Coffee.   Jul 2016 – Feb 2018

EDUCATION

Deakin University, Waurn Ponds   2020 – 2023
(Expected)
Batchelor of Mechatronics Engineering (Honours)
- Recipient of the following five scholarships:
  - Barwon Water Scholarship 2020 – 2023.
  - Deakin Student Support Scholarship 2020.
  - Deakin Funded Undergraduate Scholarship Program 2021.
  - Deakin Student Support Scholarship 2022.
- Won the best project award for building and programming a handheld device that measures and logs multiple environmental factors to an SD card and was showcased at the Deakin Open Day 2022.

St Bede's College, Mentone   2016 – 2019
Year 12 VCE

- Served as Class Captain and Electronics Leader (E-Leader).
- Assisted students and teachers with technology issues.
- Trained teachers and staff members on how to use their devices more effectively.
- Founded the CAD/CAM Club that enabled students to design and build personal projects with peer support.

COURSES AND CERTIFICATIONS

- HLTAID011 - First Aid / CPR Training, St. Johns Ambulance   2023
- Construction Induction White Card, MentorHR.   2022
- Victorian Driver's License, Vic Roads.   2020

ADDITIONAL INFORMATION

- **Technical Skills:** CAD / CAM, PLC / RTU / STM32 Micro-Controller Programming.
- **Programming Languages:** Python, C, C++, C#, Visual Basic and Batch.
- **Languages:** English (fluent), French (basic), Japanese (basic).
- **Interests:** Building Computers, Rock Climbing, Archery and Building and repairing Electrical and Mechanical systems/projects.

ACHIEVEMENTS

- Won an award for the best Year 12 Systems Engineering Project in which I designed and built a remote-controlled six-legged robot (hexapod) that could be used for inspections in confined spaces.
- Won an award for the best device in my University Mechatronics Design Unit. My submission involved a handheld device that can measure a range of environmental factors while showing the results on the device screen and simultaneously logging them to an SD-Card.
- Co-authored and published a report to the Intelligent Water Network (IWN) panel on using AI for defect detection before and after relining sewer pipes on behalf of Barwon Water.

REFEREES

Michael Thomas

Research and Development Manager, Barwon Water
Industry Project Supervisor

Mathew Grove

Strategic Asset Management Manager, Barwon Water
Current Direct Manager

Contact details available on request