

Maximilian Keller

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PROFILE OVERVIEW

Motivated Engineering Master's Graduate with cross-disciplinary expertise in teaching, research, design, and hands-on engineering.

KEY COMPETENCIES

- **Modelling:** Proficient in SolidWorks (CAD), Autodesk Fusion 360 (CAD/CAM).
- **Control Systems:** Expertise in control theory, autonomous systems, and mechatronic design; university-level teaching experience.
- **FEA Software:** Skilled in ANSYS, including Static Structural and ACP modules.
- **Programming:** Advanced C, C++, Python, with FPGA and assembly experience.
- **Deep Learning & Machine Learning:** Proficient in PyTorch & TensorFlow frameworks.
- **Mechanical Design & Manufacturing:** Skilled in workshop techniques, prototyping, machining.
- **Interpersonal Skills:** Proven ability to communicate complex concepts to diverse audiences.
- **Languages:** Bilingual in German and English, proficient in French.

EDUCATION

University of New South Wales, Sydney

Master in Robotics Engineering (Aug 2023 – Sep 2024)

- 'Award with excellence' with Weighted Average Mark of 81%

Bachelor in Mechatronic Engineering (Feb 2019 – Jun 2023)

- 'First Class Honours' with Weighted Average Mark of 82% and 88% for thesis project.

SCECGS Redlands, Sydney

International Baccalaureate (IB) (Jan 2017 – Dec 2018)

- Awarded Distinction with IB score: 41 (TOP 7% in cohort).

WORK EXPERIENCE

University of New South Wales, Sydney

Academic Teaching Assistant in various faculties – (Feb 2022 – Sep 2024)

- Designed and taught (4th, 3rd & 1st year undergraduate) tutorial classes of between 20-70 students in subjects of control theory, autonomous systems, robotic programming in C++, Programmable Logic Controllers (PLC), CAD design in SolidWorks and engineering principles.
- Extremely positive student survey feedback consistently above university average satisfaction.

Research Assistant – Geospatial Research Innovation Development Centre (May 2021 -Jan 2022)

- Developed an end-to-end pedestrian detection system using LIDAR and ML.
- Selected personally to present as a panellist at the *Smart Cities Council, Digital Twin Week 2022*.

Mechatronic Engineer – Sunswift Student-led Solar Racing Team (Jun 2021 – May 2023)

- Elected “Chassis & Bodywork Engineer” for small, record-breaking Guinness World Record team, earning title ‘*fastest EV over 1000km on a single charge*’.
- Thesis project simulated and quantified the energy harvesting potential from electromechanical vehicular suspension, as applied to the Sunswift 7 race car.
- Designed and manufactured ventilation and cooling systems showcasing advanced CNC machining skills and FEM analysis.

Prototyping Coach & Technical Assistant – Michael Crouch Innovation Centre (Sep 2019 – Present)

- I guide startups in the 10x startup accelerators to build prototypes and MVPs.
- I led and designed a total of 80+ workshops (~15 people, ~3hrs each) in Arduino, CAD, Design Thinking, workshop tools & CNC machine programming at the UNSW MCIC.

Eppendorf South Pacific Pty Ltd, Sydney

Service Engineer Intern – Australian Service Workshop (July 2021 - Dec 2021)

- Conducted market research for pricing model to transition to in-house service.
- Created digital floorplans for an optimised in-house service workshop arrangement.

SCECGS Redlands, Sydney

High School Rowing Coach (Sep 2019 – May 2022)

- Instructed rowing crews (5x weekly 05:00 sessions) to progress to State Championships in 4x+ boats for 3 seasons.

Straco Pty Ltd, Sydney

Founder and Sole Operator – Drone Photography Business (Jan 2017 - Jan 2021)

- Seized the market gap for specialized small scale aerial photography for architectural renderings and visualisation, conducting ~20 projects (\$15,000 revenue) for big firm clients.

COMMUNITY SERVICE and other CERTIFICATIONS

- First Aid, CPR and Emergency Life Support Certification (2024, 2021, 2019, 2015).
- NCCSLSC (North Curl Surf Life Saving Club) member & beach patrol (2015-2020).
- PADI Advanced and Nitrox SCUBA diving licence (2020).
- Rowing Australia Coaching Accreditation – Level 1 (2019).
- Volunteer in the UNSW MCIC Makerspace (2019).
- School Renovation and Fundraising Volunteer Service Project in Cambodia (2017).
- Duke of Edinburgh Bronze (2015), Silver (2017) and Gold (2018) Service Awards.
- SLSA (Surf Life Saving Australia) Bronze Medallion (2015).

REFERENCES

Available on request.