

Timothy Alder

Electrical Engineer

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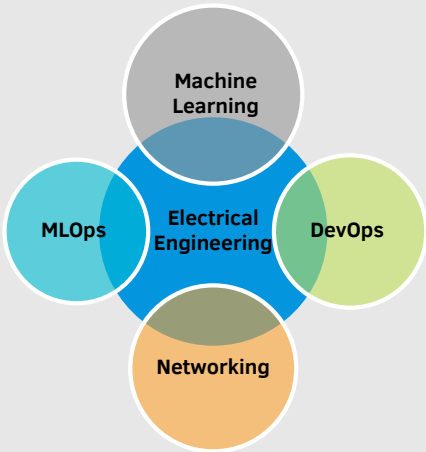
 <https://tplat.au>

 aldertimothy@gmail.com

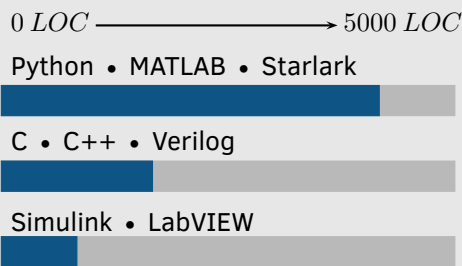
 /in/timothyalder

 timothyalder

Technical Skills — Overview



Programming



Education —

Bachelor of Engineering (Research & Development) (Honours) (GPA: 6.531)
Major: Electronic and Communication Systems
Minor: Mechatronics
Australian Excellence Scholarship
Australian National University
2021 - 2024 | Canberra, Australia

Experience

Feb 2026 - Present	Network Security Engineer	Department of Defence
	- Building a stronger, more resilient Australia. Skills: Threat Modelling, IDPS, SIEM, BPF, REST APIs Tools: Python, Wireshark, LangChain	
Jan 2025 - Jan 2026	Machine Learning Engineer	Seeing Machines
	- Technical lead; 3D vision-based solutions for biosensing. - Technical lead; generative AI for identity anonymisation and synthetic data generation. - Technical lead; parallelised, scalable algorithm validation system. Skills: Machine Learning, MLOps, DevOps, Project Management Tools: Docker; AWS S3, Batch, ECR	
Mar 2022 - Dec 2024	Undergraduate Optical Engineer	Seeing Machines
	- Automated all major optical test procedures using Python and C++ to control a spectrometer, goniometer, and camera frame grabber hardware; as well as Zemax and Imatest software. Developed user-friendly GUIs using PyQt, improving accessibility and reducing manual errors. - Programmatic implementation of ISO12233, achieving >10x speed improvement over existing industry-standard software while eliminating >\$20,000/year licensing costs. Skills: Optics, Test Automation, OOP, CI/CD Tools: Python, C++, OpenCV, Bazel, Jenkins	

Research

2020 - 2020	B.Eng. (R&D) (Hons.), Undergraduate	Australian National University
	Thesis: <i>DepthPhys: Near-Infrared Remote Photoplethysmography in Driver Monitoring Systems</i> - Novel deep learning approach to remote photoplethysmography using bespoke three-dimensional vision system. - Collection of a large dataset of naturalistic driving data with varying ambient illumination, behavioural, and physiological conditions.	
2022 - 2023	B.Eng. (R&D) (Hons.), Undergraduate	Australian National University
	Thesis: <i>Harnessing coherent illuminator properties to detect subsurface scattering</i> Vertical-cavity surface-emitting lasers (VCSELs) for material classification under varying ambient illumination conditions.	
2022 - 2022	B.Eng. (R&D) (Hons.), Undergraduate	Australian National University
	Thesis: <i>Power Requirements of Ground-Based Bushfire Detection Devices</i> Literature review investigating the power requirements of various sensors for application in a remote distributed IoT bushfire detection network.	

Hobbies

Sports	Martial Arts	Dark Carnival, Club Lime
	Muay Thai, Brazilian Jiu Jitsu Strength Training	
Technical	Home Automation	Home Assistant, Networking
Misc.	Motorbikes, music, puzzles, bread, ... mint chocolate	