

Matthew Wildoer

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My goal is to make awesome things, live in the flow state and foster the child-like love of invention - all while maintaining the highest engineering rigour.



- Embedded software development
- MVP design and prototyping
- Tooling and automation
- Factory test design and automation
- Experienced scrum master and project leader
- CAD design in multiple packages

Reference details and contact information available upon request

Experience

Tesla - Senior Software Engineer

September 2021 - Present

Over three new products, I transitioned rapidly from firmware feature development, through software test design into stewardship over the company's self-test runner. One improvement to the test system, script module imports with security based on AST analysis, reduced the largest monolith tests by ~70% - greatly improved auditability and subsequently reliability. I championed the transition from bare-metal applications baked into our OS to dockerized microservices, which has detangled developers' dependencies and become our de facto architecture for subsequent products. I proposed, architected and orchestrated the development of a tool to interact with an ECU's diagnostics and overrides system via a simple GUI menu. These achievements, beyond my day-to-day firmware development obligations, earned me a rare and coveted perfect score on my last performance evaluation.

Lilium - Component Engineer

January 2020 – August 2021

I orchestrated the mechanical development for the power distribution sub-system of the company's critical project. During my time at the company, I primarily developed technology demonstrators using Siemens NX, Teamcenter and Polarion, while coordinating prototyping and managing the work of the sub-system team. Additionally, I was commissioned by senior leadership to improve our R&D processes and culture, with a mandate to enable "fail fast" development within a culturally rigorous Germany aerospace company. Outside the direct requirements of my role, I developed tools to automate repetitive tasks and improve data flows which were virally adopted by those suffering the same issues. Two inventions I developed here are currently in the final stages of publishing patents.

Planet Innovation – Software and Mechatronics Engineer

May 2019 – December 2019

I primarily worked as a Python developer writing software packaged onto an embedded Linux system. I leveraged my cross-discipline skills to package our hardware for rapid, iterative integration testing. I developed prototypes which caught critical bugs months earlier than anticipated integration and before deployment to our client. On another project, I designed and orchestrated tests for an ultra-low-power precision accelerometer to assess capabilities beyond its intended limits, with excellent customer satisfaction.

MedCorp Technologies – Contract Research and Development Engineer

February 2018 – April 2019

I developed prototype wireless biometrics wearables including the sensor packages, software, electronics and protocols using Python, MatLab, C/C++ on embedded Cypress PSoC and Espressif microcontrollers, Eagle CAD, Solidworks and Fusion360. My research significantly contributed to MedCorps' next generation of sensor development and the sections I was able to document for my final year project were awarded the Fred Molyneux Prize for Best Final Year Project. I continued to work for MedCorp after completing university.

Geratech - Contract Research Engineering

September 2015 - March 2018

While focussed on early-stage rapid technology development, we also applied an agile development strategy and the broad skill set of our engineers to a range of projects, including:

- Dental implants, where we invented a dental screw system to drastically reduce advanced implant manufacturing cost in partnership with a Melbourne based lab
- One-click CNC machining to allow multiple daily iterations of metal components to empower engineers to develop hardware agile, even for demanding applications beyond the limits of current rapid prototyping techniques. I developed the branch-and-prune algorithms

Education and qualifications

Swinburne University of Technology - Bachelor of Engineering

Majored in Robotics and Mechatronics with remaining units in Computer Science

Fred Molyneux Prize for Best Final Year Project

Vice-Chancellor's Excellence Scholarship

BMW Smart Melbourne Scholarship

Member of the Golden Key International Honours Society

Personal Interests

When not working, studying or engaged with personal projects I'm a keen cyclist, rock climber, outdoorsman.