Etienne Naude

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Master's in Innovation Design Engineering at Imperial College and the Royal College of Art with comprehensive industry experience in design, technology and making. Excited to join the Creative Lab Five

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Education

Master of Innovation Design Engineering (MSc & MA) 2023 - 2025
Imperial College London & The Royal College of Art

- Selected for the Open House 2025 exhibition for the world's **fastest lock-picking robot**
- Selected for the Open House 2024 exhibition work for edible cup
- 2nd in the DFS sustainable design challenge for innovative cardboard recyclable sofa design

Bachelor of Advanced Computer Science (Honours)
The University of Auckland

- First Class Honours
- Honours GPA - 8.875/9 (A+) | Cumulative GPA - 7.8/9 (A)
- Selected for Science Scholars (Top 30 students in the entire science faculty of 9,000)
- 1st in Class – Computer Science Capstone
- 1st in Class – Design for Additive Manufacturing
- 9 Outstanding Achievement Awards
- Founded the Maker Club, one of the largest student societies with over 1,100 members

Experience

Mechatronics Engineer — **Kaikaku AI** — 2024 - 2024
Prototyped four robots, including an optimised sauce dispensing robot, using peristaltic pumps, which led to new opportunities with investors for the company. Using **computer vision** to sense and a range of actuators to improve the efficacy of a fast-running restaurant.

Technology & Prototyping Adviser — **Unleash Space** — 2023 - 2024
Lead Creative Technologist — 2019 - 2023
Led a team of **15** creative technologists to keep the Maker Space running smoothly. I also taught **500+** members about **12** disruptive technologies, including **3d printers**, **Iot** and **generative AI** through **100+ workshops**. I also helped members **make** various creative projects from **robotics** to **jewellery** to **fibre arts**. I also created a range of internal digital tools to help improve the workflow and processes of the staff members.

Senior Software Developer — **Kekeno Tech Ltd** — 2023 - 2024
Software Developer — 2020 - 2023
Lead developer on **4** projects, as well as advising on a further **2** projects. I created a **web app** using an **Angular** frontend and **C#** backend for the staff at Te Kaha - a charity that helps indigenous youth with well-being.

Full-stack Software Engineer — **Halter NZ** — 2022 - 2023
New Zealand's leading agritech startup. I developed a guidance system interfacing with the **embedded devices** using a **Python** backend with a **React Native** interface, to more ethically guide cattle to their next location.

Robotics Researcher — **The University of Auckland** — 2021 - 2022
Created **educational robots** that allow children to program using a **tangible programming language**. They could show the robots different cards with instructions to follow. This innovative approach encouraged children to program before they could even use a computer. We also created a system to collect data.

Projects

Lock Picking Robot 2024

The **most advanced lockpicking robot**. I counterintuitively designed it to make locks **more secure**. Made as an alternative to master keys, which are used widely (for example, on almost every suitcase) and have large inherent security issues. It uses a series of wires which push through a custom 3d-printed steel key blank to spoof the correct key bitting. – github.com/etinaude/unlocked

ESDA - Early Seizure Detection 2024

A glove that uses **flex-sensors** to **detect hand poses** early in a clonic-tonic seizure. I conducted many **user interviews,** did the **mechanical design,** and created a **Tensorflow Lite** model optimised to run on an **ESP-32**.

Vending Machine 2023

Modernising, Automating and digitising a broken vending machine by adding an **ESP-32** system and a website using **Svelte**. So students could sell anything they created, like candles or crocheted toys, and distribute free well-being products. The vending machine has been running continuously for **2+ years**, and **40+** different products have been sold. All of the profits go to the artists who made the products. – vend.makeuoa.nz

Terrible Ideas Hackathon - Organiser and Host 2023 - Present

A low-barrier-of-entry hackathon, we ran internationally across **three** countries and **four** cities, with over **300** participants. This hackathon was featured on a major engineering YouTube channel. – terriblehack.com

*70+ more projects can be found at **etinaude.dev/projects***

Publications

Non-planar Ironing to Improve Material Extrusion Surface Finishes 2024

A **new technique** that creates **10x smoother** objects in 3d printing using the same machines.

Automated Student 3d Printing Verification Process 2024

I **develop** and **maintain infrastructure** for the Imperial College **Robotics Lab**, including working on our **on-premises Kubernetes** system and developing **Python** code with **Postgresql** to automate our processes, integrating into Notion and Discord. Our work was published at ISAM 2024 – github.com/ICRS/icrs_lab

Anti-patterns in Students' Conditional Statements 2024

Building a Low-cost, Screen-free Robotic Programming Environment for Children 2023

Awards

National New Zealand Cyber Security Competition top 20 2023

Best Special Interest Club of the Year for founding the Maker Club 2023

Best Club of the Year Runner-up for founding the Maker Club 2023

Design Scholarship - University of Auckland 2023

SESAxGDSC Hackathon Runner up 2022

Distinguished Graduate - University of Auckland 2020

Queen’s Scout Award - Scouting New Zealand 2019

Hannah-Bradshaw Service Scholarship 2019