

# Maakis Thoppae

SOFTWARE ENGINEER APPRENTICE AT GOOGLE

✉ me@tmkcell.xyz  tmkcell  tmkcell.xyz

## Work Experience

---

### Software Engineer Apprentice

GOOGLE

09/2025 - 09/2027

- Worked on Wear Compose, a UI library for Wear OS Android applications written in Kotlin.
- Followed guidelines set by UX designers to implement UI in code.

### Mentoring (part-time)

ALTUS ACADEMY

11/2024 - 04/2025

Taught GCSE level content to a group of high school children, and required me to have good communication skills in order to explain concepts clearly to pupils in a way that they can understand.

## Projects

---

### psyche

A 32-BIT COMPUTER ARCHITECTURE TOOLCHAIN.

- Design inspired by MIPS and the Intel 8080 processor, designed with a 4-stage pipeline.
- Contains an emulator written in C++ with complex features such as a dynamic plugin system and graphics via the SDL3 library.
- Contains an assembler written in C++ with a preprocessor, a simple linker and labels.

### drisa

A 32-BIT COMPUTER ARCHITECTURE DESIGNED FOR HIGH CODE DENSITY.

- Inspired by Arm and RISC-V. Uses conditional and compressed instructions for high performance at minimal cost to complexity.
- Contains an emulator written in C++ for micro:bit, with the hardware accessible within the emulator.

### takottpd

A LIGHTWEIGHT HTTP SERVER FOR LINUX WRITTEN IN ZIG, DESIGNED PRIMARILY FOR EMBEDDED SYSTEMS RUNNING MODERN LINUX.

- Serves files 50% faster than an industry standard web server by using Linux's io\_uring API and an event-driven architecture.
- Hosts my personal website reliably; takottpd runs on a single-core arm SBC with no downtime caused by itself crashing.

## Education

---

### Sixth Form College

UK

3 A-LEVELS IN MATHEMATICS (A), PHYSICS (A) AND COMPUTER SCIENCE (A) + EPQ (A)

September 2023 - August 2025

EPQ topic: How was the PlayStation 3 used to influence the design of supercomputers?

- Developed my understanding of HPC and SIMD in computer architecture.
- Learned valuable skills including time management, organisation and academic reading/writing.

### Secondary School

UK

10 GCSES INCLUDING MATHEMATICS (8) AND ENGLISH LANGUAGE (8) @ GRADE 8-6 (A\*-B)

September 2021 - August 2023

## Skills

---

### Programming

Zig, C, C++, Go, Kotlin, Shaders (AGSL), Java, Python, C#, SQL, Shell, arm/RISC-V/ MIPS Assembly

### Linux

4 years of experience, using intricate configurations for Raspberry Pi-esque devices, servers and desktops; distro agnostic.

### Devtools

git, cmake, meson

### Academics

Bronze in British Physics Olympiad, Silver in UKMT Senior, Delivered quantum computing presentation for extra-curricular mathematics enrichment.