

WILLIAM McVICAR

dev@willmcvicar.com | Hamilton, New Zealand | willmcvicar.com

PROFILE

Computer Science student at the University of Waikato (minor in Data Analytics), graduating 2027. Builds and runs production systems end to end — relational database design and SQL, data pipelines and visualisation, and hardened Linux server infrastructure — currently running two live sites on self-managed infrastructure. Four years in frontline healthcare administration brings the stakeholder communication, accuracy under pressure, and discretion with sensitive data that technical skill alone does not.

EDUCATION

University of Waikato | Hamilton, New Zealand

2024 – 2026

Bachelor of Science — Major in Computer Science, Minor in Data Analytics. Expected completion 2026.

PROJECTS

Website Development & Infrastructure | Client project, Dr. Matthew Jeromson

matthewjeromson.com

PHP · Apache · Oracle Cloud VPS · GitHub Actions · Cloudflare · Let's Encrypt · Cron · Composer

- Diagnosed a silent data-pipeline failure: Google Scholar was blocking GitHub Actions' shared IP ranges. Re-architected scraping onto a scheduled VPS cron job that updates the live site immediately and pushes changes back to GitHub via a write-scoped deploy key.
- Provisioned and hardened a production Ubuntu server: key-only SSH with root login and password auth disabled, UFW firewall with fail2ban, unattended security upgrades, and a PHP configuration hardened against version fingerprinting and error leakage.
- Configured Apache with a dedicated public web root and application directories held outside it, served over HTTPS via Let's Encrypt behind Cloudflare in Full (strict) mode.
- Migrated the site from managed hosting to a self-managed VPS for full infrastructure control at zero ongoing cost.

Personal Website & Multi-Site Server Deployment | Personal project

willmcvicar.com

Apache · Oracle Cloud VPS · GitHub Actions · Cloudflare · Let's Encrypt · PHP · Composer

- Deployed a second production site onto an existing hardened VPS via Apache virtual hosts, running two independent domains with separate TLS certificates, isolated logging, and separate deploy pipelines on a single instance.
- Built a self-hosted contact form in PHP with server-side validation, honeypot spam filtering, and file-based rate limiting; diagnosed the host's outbound port 25 block and re-architected delivery onto authenticated SMTP via a transactional provider with SPF/DKIM configured at DNS level.
- Structured the application with a public web root and credentials, dependencies, and runtime state held outside it, enforced by both directory layout and Apache configuration.
- Set security headers (CSP, HSTS, X-Frame-Options, Referrer-Policy) at the web-server layer and automated deployment on push to main via GitHub Actions over SSH using scoped, read-only deploy keys.

External Merge Sort CLI Tool | Academic project

Java

- Built a command-line tool that sorts datasets larger than available memory, using replacement selection and multi-stage merging.
- Tuned buffer sizing and disk I/O for a constrained-memory Linux environment.

Web Application with MySQL Backend | Academic project

PHP, MySQL, JS

- Designed a normalised relational schema and wrote the SQL (joins, filtering, aggregation) behind it, then built the web interface that consumes it.

TECHNICAL SKILLS

- **Languages:** Java, Python, C#, .NET, PHP, SQL, R, JavaScript
- **Data:** Relational design and modelling, MySQL, pandas, NumPy, R (cleaning, exploratory analysis, visualisation)
- **Infrastructure:** Linux (CLI, server administration), Apache, SSH hardening, UFW, fail2ban, Cloudflare, TLS/Let's Encrypt
- **Tools & Practice:** Git, GitHub Actions (CI/CD), Composer, object-oriented design, algorithms and data structures

WORK EXPERIENCE

Inpatient Receptionist | Waikato Hospital (Te Whatu Ora)

2023 – Present

- Primary point of contact between medical staff, patients, and administrative systems in a time-sensitive ward environment.
- Maintain patient information systems and administrative workflows where accuracy and confidentiality are non-negotiable.

Administrator & Healthcare Assistant | Community-Based Assessment Centre

2020 – 2022

- Entered and maintained structured patient data across a high-volume operation processing up to 700 patients per day.
- Coordinated directly with patients and clinical staff to resolve scheduling and data issues under sustained pressure.

REFERENCES

Louise Geyser — Inpatient Receptionist Team Leader, Te Whatu Ora (line manager)

Dr Matthew Jeromson — Client, University of Canberra

Professor Annika Hinze — Head of the School of Computing and Mathematical Sciences, University of Waikato

Contact details available on request.