

# Callum van Heerden

callumvanheerden@outlook.com | [github.com/callumvh](https://github.com/callumvh) | [callumvh.com](https://callumvh.com)

## Work Experience

---

**Verishare Software (Junior Software Developer)**

2021/05 – present

- **Telegram Chatbot:** I built a Telegram chatbot from scratch to production for debtors to be able to see their accounts, pay their balance using PayAt, create repayment plans and create debit orders, all without talking to anybody (Almost 400 users).
  - Java, Spring Boot
  - Spring Statemachine
  - rubenlagus/TelegramBots library
  - SQL Server and Stored Procedures for Statemachine session persistence and logging
  - Event-driven model
  - Excel report generator for observability
  - E2E testing for the user flow
  - Reactive streams with Spring Reactive, WebFlux, Mono, used with Spring Statemachine and the Telegram library
  - Built a PlantUML chart exporter for the Statemachine diagram
- **Database-as-code:** Worked on converting our largest database into an idempotent “database project” using SSDT (SQL Server Data Tools), which allows you to define your schema as code, allowing you to rebuild it from scratch and use source control to track changes over time. The project is about 90% complete so we have not yet made the migration.
- **PayAt API integration:** I worked on upgrading a legacy SOAP integration with PayAt to their new REST API using Spring Boot, utilized a OpenAPI/Swagger Spring code generator
- **Business applications:**
  - I worked on VPS, which is a scheduling application for C#/dotnet applications, used for handover imports, payment imports etc
  - I worked on VeriWeb which is a Java/Spring application for exposing and consuming API’s, we also use it for many other things like managing recurrind card payments and our office dashboard monitoring tool.
  - Worked on VeriNet which is a large desktop application built using Clarion and used by our agents when communicating with debtors.
  - I created and maintained many SQL Server stored procedures (where most of our business logic is stored), I also have a lot of experience with querying and joining data, as well as creating reports in SQL.
- **VeriCred Credit Bureau (VCCB) API integration:** Integrated with the VCCB API to retrieve personal data about certain debtors in VeriNet
- **VeriNet scripts using powershell:** Worked on improving the developer experience by heavily utilizing powershell scripts to compile VeriNet (which requires a 32-bit VM to do any development), it reduced the time from when you make a code change to seeing the change when running locally.
- **Voyc.ai development:** I worked on importing prediction data from a third-party integration called Voyc.ai, they converted our agent calls to text and tried to measure how well they followed their script etc. I worked on screens in VeriNet which would show information about that data.
- **USA branch:** I worked on API integrations for our USA branch which has since closed down. I utilized the Merchant-E API and IntelliPay API for payment imports.
- **CPB API:** Upgraded our integration with a third-party Credit Bureau called CPB.

## Education

---

### Benoni High School

Matric NSC - Studied IT from Grade 10 - 12

2013 – 2017

## UNISA (part-time)

- *Diploma in Information Technology (discontinued to transition to BSc Computing)* 2020 – 2022
- *Higher Certificate in Mathematics and Statistics (one module left) (working towards BSc Computing)* 2020 – 2022
- *Bachelor of Science in Computing (not started yet)* 2024 –

## Projects

---

- **Homelab - callumvh.com:** This is an overkill home infrastructure for learning about DevOps/GitOps concepts, I use the following technologies:
  - **Kubernetes** (K3S distro)
  - **Cloudflare tunnels** and **Traefik** as a reverse tunnel/proxy (to expose services to the internet)
  - **Flux CD** which is a “**GitOps** style” toolkit for Kubernetes deployments
  - **GitHub Actions** & Flux CD allow for a smooth CI/CD pipeline where the containers automatically get built and pushed to my container registry, flux cd automatically updates the kubernetes cluster by changing the version in the source code via a bot.
  - I also have private services running on subdomains such as service1.callumvh.com, service2.callumvh.com etc
  - It contains a **personal website** and **blog** which are both still under development, created using vercel and the JAM stack, both running in their own container.
  - I would like to add dark launches, feature flagging, testing in production, canary launches, blue-green deployments, A/B testing, and so on.
- **Reddit clone:** I created a clone of Reddit.com using their API. I used Python and Flask to build the application, you could go to any subreddit and see all the popular posts but it was read-only.
- **Interest calculator:** This is a simple interest calculator which was a tech-challenge required for landing my job at VeriShare
- **T Shirt Viewer:** This was a simple Vue.js project where you could design a t-shirt by uploading an image and placing it on the front & back of a t-shirt
- **CV:** This CV was created using Typst, which is a markup-based typesetting system and alternative to Latex/MS Word for document creation. Here is the link to the repo: [callumvh/cv](https://github.com/callumvh/cv)