Pierre-Louis Braun

Software Engineer

Born on July 1998
Mulhouse, France
plbraundev@gmail.com
+33631036304

github.com/alkeryn
linkedin.com/in/pierre-louis-braun98/

Skills:

Languages:	• **Rust**, **Python**, **Bash**, **C**, **C++**, **Nix**
Technology:	• **Linux**, KVM, QEMU, Proxmox, Libvirt, LXC, LXD, Docker, Kubernetes, Nix, RabbitMQ
Databases:	• PostgreSQL, MySQL, CockroachDB, ScyllaDB, Redis, SQLite, MongoDB
Network:	• nmap, scapy, ss, ip, netcat, SSH, TCP/IP and UDP knowledge
Web:	• Nginx, Apache, **JavaScript**, PHP, HTML5, CSS, WebAssembly
Misc:	• Reverse engineering, static & dynamic analysis, binary exploitation, writing exploits Data-oriented programming/design, Machine learning, Arch Linux, NixOS, **Git**

Work Experience:

Hut8

Senior Software Engineer

January 2024 - Now

- Writing and architecting high performance software to orchestrate hundred of thousands of miners in **Rust**
  - Including gathering and storing data from those miners, doing thousands of requests per second
- Writing software to do integrity checks on databases
- Writing software to backfill data from one database to another (influx, bigquery)
- Writing software to curtail computers based on power price and other factors.
- On-call Response to emergencies.

Vozforge

Founder and Software Engineer

May 2020 - Now

- Wrote an app that allows using an Android tablet as a graphic tablet on Windows and Linux, this involved writing drivers[1] and a custom TCP and UDP binary protocol from scratch. The server was initially written in **C++** and later rewritten in **Rust**, the client, running on the tablet, was written in **Kotlin**.
- Writing a modular **Rust** backend framework using **Actix**, this includes modules and libraries for authentication, geospatial queries[2], account management, messaging, notifications, and more, the databases used are **PostgreSQL**, **ScyllaDB**[3], and **Redis**.
- Wrote a visualization web UI to compare Google **S2** to Uber **H3** using WebAssembly

1. **KMDF** on Windows, libinput on Linux
2. Using Google S2 cells and ScyllaDB, the library allows for horizontally scalable realtime geospatial queries such as “getting 100 users in a radius of 100km ordered by distance”
3. ScyllaDB is a C++ rewrite of **CassandraDB** made by mostly the same people but with high performance as a goal.

Everdreamsoft

Full Stack Developer

October 2022 - July 2023

- Optimization and adding features to an in-house database
- Wrote benchmarking tools for prototyping optimizations | **Rust**
- Wrote a migration tool for blockchain data from **MongoDB** to **PostgreSQL** using **Rust**
- Lead backend developer for the ChainChronicles project, an NFT subscription service | **PHP**
- Developed a **Go** microservice for account synchronization with Stripe’s API
- Contributed to the Wakweli blockchain MVP | **Go, PostgreSQL**
- Developed an in-house secret sharing application using Shamir’s Secret Sharing and AES-GCM | **Go, Wails, PostgreSQL**
- Researched Ory Kratos authentication service

Education:

Computer Science

UHA 4.0 (Mulhouse, France)
2017-2020

Achievements :

One of the winners of the 2019 DGSE Richelieu hacking CTF. It involved steganography, cryptography, reverse engineering and binary exploitation

Languages :

French and English

References:

Available upon request

Personal Project:

Game server scanner written in **Rust** that can scan and get metadata of > 200k servers in < 10s across the whole IPv4 range.

see older work experiences on page 2

Older Work Experience:

PSA Finance

Cybersecurity Consultant and Manager / Executive

July 2022 - October 2022

- Worked as a Cybersecurity Consultant and Manager for the **PSA Finance** group (the bank of **Peugeot** and **Citroën**) as a service provider from **Sogeti** (part of **Capgemini**)
- Conducted network vulnerability scans on thousands of servers in the local network using **Qualys**
- Performed penetration testing and analyzed third-party penetration test reports
- Wrote vulnerability reports and mitigation strategies based on the aforementioned penetration tests
- Developed a **Python** tool to match vulnerabilities from the NIST NVD vulnerability database