Pierre-Louis Braun
Software Engineer

Born on July 1998
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Skills:

Languages:
- **Rust**, **Python**, **Linux**, **Bash**, **C**, **C++**, **Nix**
- KVM, QEMU, Proxmox, Libvirt, LXC, LXD, Docker, Kubernetes, Nix

Databases:
- PostgreSQL, MySQL, CockroachDB, ScyllaDB, Redis, SQLite, MongoDB

Network:
- nmap, scapy, ss, netcat, 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:

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 developer for the backend of 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

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

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.