


Jonas Pauli

Experienced Rust Engineer with a passion for cryptography and a strong interest in nix and developer environment optimization.

Contact Info

 +41 76 229 11 60

 jonaspauli089@gmail.com

 [Github: jonas089](https://github.com/jonas089)

Work Experience

R&D Engineer

Sep. 2022 – now
at Casper Association

- Contributed to zero knowledge engineering research, designed and developed a ZK node that verifies proofs against different backends in Rust.
- Utilized **nix flakes** and **docker** in system development environments.
- Developed and deployed a **React** application for a collaboration with Virtual Enterprise @VE Tech Talks 2022–23, where **students used my web app to mint their own NFTs**.
- Developed a **Python** tool that was used to estimate energy consumption of the Casper Platform for ESG compliance. Later built a better version of that tool in **Rust** with a friend, applying best practices and leveraging **asynchronous tokio**.
- Conceptualized a transaction rollup system, proving inclusion of transactions in a **merkle tree**, **secp2561 signatures** and **state transitions**.
- Conducted **code reviews** and **feasibility studies** for the Head of R&D (Mark A. Greenslade) that were referenced on multiple occasions.
- Authored official R&D articles on Medium, covering topics such as digital signatures (ECC), zero knowledge and merkle trees.

R&D Assistant

July 2022– Aug. 2022
at Casper Association

- Learned to code in Rust and structure Rust projects
- Implemented tooling and testing scripts in **Python** and **Typescript** (**Sdks**, **Tooling&Testing**, **Apis**)
- Deployed and tested **Smart Contracts**

Github Projects

raptor-retriever

- Asynchronous scraping tool in Rust to analyse on-chain information

Rust compiler macro

- Casper smart contract macro compiler that emits json metadata to describe the functions and types of the smart contract

zk-node

- Rust service that can receive, process and gossip zero knowledge proofs, supporting multiple backends (Noir, Circom / Arkworks)

ecdsa-circuit-input-lib

- A cryptographic library that generates processable inputs for zero knowledge circuits utilizing secp256k1 signatures.

Academics

IU Internationale Hochschule

Since Feb. 2023

- Enrolled in a part-time CS bachelor's degree

Hull's School Zurich

Aug. 2019 – Aug. 2022

- Edexcel international A-Level in **Mathematics**, **Physics** and **German**

Udemy

- Cryptography and Hashing fundamentals in Python and Java
- REST Apis with Flask and Python (2022 edition)
- Ultimate Rust Crash Course

Cambridge

- Cambridge proficiency in English, niveau C2