

24 years old (16/08/2000)  
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# Bastien Faivre

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## EDUCATION

- Master of Science MSc in Computer Science** (specialization in **Software Systems**) **Sep 2022 — Current**  
*EPFL, Ecole Polytechnique Fédérale de Lausanne, Lausanne*
- Academic exchange year** **Aug 2021 — Jun 2022**  
*Royal Institute of Technology (KTH), Stockholm, Sweden*
- Bachelor of Science BSc in Computer Science** **Sep 2019 — Jun 2022**  
*EPFL, Ecole Polytechnique Fédérale de Lausanne, Lausanne*

## TECHNICAL SKILLS

- Ability to take initiative and progress tasks independently.
- Skilled in fostering team collaboration to promote idea-sharing and constructive discussions.
- Committed to delivering high-quality work with a welcoming attitude towards feedback for continuous improvement and learning.
- Ability to rapidly learn and adapt to new technology.
- Multi-year experience with Linux environments.
- Interested in high-performance distributed and large-scale systems, especially in data management and blockchains.
- Languages: bash, Go, Rust, C/C++, Python, Java, Scala, Javascript (React), NodeJS.

## EXPERIENCE AND PROJECTS

- Master Thesis**, Protocol Design and Performance Analysis of a Networking Layer of a BFT Consensus Engine **Sep 2024 — Current**  
*Informal Systems, Lausanne, Switzerland*
- Designed and implemented a node discovery protocol based on state-of-the-art self-organizing network protocols.
  - Automated worldwide deployment of thousands of nodes using Ansible and Docker.
  - Researching network gossip protocols focusing on reliability, performance, and security.
  - Leveraging the security and efficiency of Rust for the implementations.
- Research Engineer Intern**, Distributed Confidential Computing **Mar 2024 — Aug 2024**  
*ABB Corporate Research Center Switzerland, Baden-Dättwil, Switzerland*
- Setup infrastructure as a code using Ansible for development and test environment.
  - Carried a migration of a deployment from Docker to Kubernetes.
  - Patched Linux kernel with custom patches for real-time features and TDX capabilities.
  - Designed solution architectures for modular and flexible deployment of protection and control applications for substation automation.
- Student researcher**, Performance and Security Evaluation of Blockchain Layer 2 Systems (**report**) **Jun 2023 — Feb 2024**  
*Distributed Computing Lab (DCL), EPFL, Lausanne, Switzerland*
- Leveraging a deep understanding of Ethereum and Layer 2 protocols.
  - Initiated the development of an **open-source tool** to automate the deployment of worldwide layered blockchain systems.
  - Engaged in proactively identifying potential security vulnerabilities inherent in blockchain systems.
- Backend and Infrastructure Engineer**, Real-Time Massive Multiplayer Web3 Game on Starknet **Jan 2022 — Current**  
*Metacube (x.com/MetacubeGames), collaborative free time project, Co-Founder*
- Designed a scalable backend (C++, Go) for a real-time multiplayer game.
  - Designed a Dockerized microservices architecture automated with Ansible.
  - Used a publish/subscribe messaging paradigm (Redis) between services.
  - Implemented security measures such as web3 authentication, JWT cookies, and anti-cheat protections.
  - Contributed to an **open-source project** to add wanted features to the game.

## ACADEMIC PROJECT

- Blockchain Security Evaluation with Twins** (**report**) **Feb 2023 — Jun 2023**  
*Distributed Computing Lab (DCL), EPFL, Lausanne, Switzerland*
- Successfully demonstrated that well-known deployed blockchains are vulnerable to Twins attacks.
  - Automated blockchain deployment and monitoring.
  - Developed a generic reverse proxy in Go to dynamically control nodes and clients communications.
  - Developed an **open-source tool** to mitigate associated byzantine node attacks.

## LANGUAGES

- **French:** Native proficiency
- **English:** Fluent
- **German:** Intermediate (B2)