

# Ilyes Rouibi

Swiss Citizen

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## EDUCATION

### Kungliga Tekniska Högskolan (KTH)

Exchange student in Computer Science (EPFL academic exchange)

Stockholm, Sweden

Aug. 2025 – Jul. 2026

### École Polytechnique Fédérale de Lausanne (EPFL)

BSc in Computer Science (QS World #10 in Eng. & Tech.)

Lausanne, Switzerland

Sep. 2023 – Jul. 2026

- **Concentration:** Software Engineering

- **Relevant Coursework:** Web Development, Algorithms, Database Design, Computer Architecture, Object-Oriented Programming, Functional Programming, Distributed Systems, Computer Security.

## EXPERIENCE

### Centre de Rencontres et d'Animation

Lausanne, Switzerland

Youth Leader

Oct. 2018 – Aug. 2025

- Engage with children and teenagers, from **6 to 17 years old**, during weekly open sessions and holiday camps.
- Design and facilitate recreational and educational activities tailored to group dynamics.

### Swiss Armed Forces

Zurich, Switzerland

Infantryman, Squad Leader

Jul. 2022 – Apr. 2023

- Completed **300 days** of full-time military service in demanding physical and mental conditions.
- Led a squad of **4 soldiers** during field exercises, managing decision-making in high-pressure environments.

## PROJECTS

### Document Management System (DMS) 💬 | Java, Docker, SQLite

Aug. 2025 – Oct. 2025

- Engineered a **Dockerized database system** in **Java** for critical hospital records by implementing and benchmarking **SQLite** vs. custom **TSV** backends.
- Designed a custom serialization pipeline where the **TSV** format demonstrated **12x faster serialization** (0.027ms) and **38% greater space efficiency** than CBOR.
- Confirmed **sub-2ms query performance** for both storage backends after initialization.

### Distributed Key-Value Store 💬 | C, Concurrency, Networking

Mar. 2025 – Jun. 2025

- Built a **distributed key-value store** in **C** inspired by **Amazon Dynamo**, supporting configurable **quorum-based replication** (N, W, R).
- Validated system resilience by designing a **peer-to-peer architecture** with virtual nodes and engineering testing tools for failure scenarios.

### Functional Connect 4 💬 | Scala, Functional Programming, Web Development

Nov. 2024 – Dec. 2024

- Developed a **multiplayer web app** in **Scala**, applying **functional programming** principles to ensure state immutability.
- Enhanced user experience by implementing real-time game mechanics, turn timers, win detection and **persistent score tracking**.

### ChaCuN 💬 | Java, JavaFX, Object-Oriented Programming

Feb. 2024 – Jun. 2024

- Replicated complex board game logic by building a **multiplayer tile-based game** from scratch in **Java** using **JavaFX** and advanced Object-Oriented Programming patterns.
- Optimized game flow by designing algorithms for tile placement validation, player turns and **automated scoring logic**.

## TECHNICAL SKILLS

**Programming:** Java, Scala, C, C++, Python, SQL, JavaScript, React, HTML/CSS, Tailwind, RISC-V Assembly

**Developer Tools:** Docker, Git, GitHub, Linux/Shell, Maven, Firebase, VS Code, IntelliJ, CLion, Figma

**Languages:** French (Native), English (Advanced), German (Intermediate), Arabic (Basic)