Ilyes Rouibi

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EDUCATION

Kungliga Tekniska högskolan (KTH)   **Stockholm, Sweden**
Exchange student in Computer Science (EPFL academic exchange)   *Aug 2025 – July 2026*
École Polytechnique Fédérale de Lausanne (EPFL)   **Lausanne VD, Switzerland**
BSc. in Computer Science (QS World #10 in Engineering & Technology, 2025)   *Sep 2023 – July 2026*
- o **Concentration:** Software Engineering
- o **Related Coursework:**
  - o **Core CS:** Algorithms, Computer Architecture, Functional Programming, Object-Oriented Programming, Human-Computer Interaction, Digital Systems, Computer Systems, Computer Security
  - o **Mathematics:** Linear Algebra, Calculus I-III, Complex analysis, Probability & Statistics

EXPERIENCE

Centre de Rencontres et d'Animation   **Renens VD, Switzerland**
Youth Leader   *Oct 2018 – Present*
- Engage with children and teenagers of **6 to 17 years old** during weekly open sessions and seasonal holiday camps
- Help design and facilitate recreational and educational activities tailored to group needs

Swiss Armed Forces   **Birmensdorf ZH, Switzerland**
Infantryman, Squad Leader   *July 2022 – Apr 2023*
- Completed **300 days** of full-time military service in physically and mentally demanding conditions
- Led a squad of **4 soldiers** during field exercises in high-pressure environments

PROJECTS

Document Management System (DMS) (KTH Project)   **Stockholm, Sweden**
Team Member (Team of 5)   *Aug 2025 – Oct 2025*
- Engineered a **Docker** database system in **Java** for critical hospital records, implementing and benchmarking **SQLite** and a custom **TSV** (Key-Value) backend, alongside a performance analysis of **TSV vs. CBOR** serialization formats.
- Achieved high-performance data handling by designing a custom serialization pipeline where the TSV format demonstrated **12x faster serialization** (at **0.027ms**) and **38% greater space efficiency** than CBOR, while confirming that both storage backends delivered comparable **sub-2ms** query performance after initialization.

Distributed Key-Value Store (EPFL Project)   **Lausanne VD, Switzerland**
Team Member (Team of 2)   *Mar 2025 – June 2025*
- Implemented a distributed key-value store in **C** with consistent hashing **(SHA-1)**, inspired by Amazon Dynamo, supporting configurable quorum-based replication **(N, W, R)**
- Designed a **peer-to-peer** architecture with virtual nodes and testing tools for performance and failure scenarios

Connect 4 (EPFL Project)   **Lausanne VD, Switzerland**
Team Member (Team of 4)   *Nov 2024 – Dec 2024*
- Designed and implemented a real-time multiplayer Connect 4 web application in **Scala** using a given web framework, applying **functional programming** principles and **software engineering** practices in a team of four
- Developed interactive game mechanics including turn timers, win detection and a persistent score tracking, with complete front-end and back-end integration

ChaCuN (EPFL Project)   **Lausanne VD, Switzerland**
Team Member (Team of 2)   *Feb 2024 – Jun 2024*
- Built from scratch a complete multiplayer tile-based game in **Java** using **JavaFX**, inspired by *Carcassonne*, during a full semester, as part of a course focused on advanced **object-oriented programming**
- Designed core gameplay systems including tile placement, player turns, and scoring logic to replicate a full board game experience

SKILLS

Programming: Java, Python, HTML/CSS, JavaScript, Scala, C, C++, SQL, RISC-V Assembly
Tools: VS Code, IntelliJ, PyCharm, CLion, Figma, Git, Maven, Docker, Linux/Shell, Jupyter Notebooks
Languages: French (Native), English (Advanced), German (Intermediate), Arabic (Basic)