

# Ilyes Rouibi

Swiss Citizen

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## EDUCATION

<b>Kungliga Tekniska Högskolan (KTH)</b> <i>Exchange student in Computer Science (EPFL academic exchange)</i>	Stockholm, Sweden Aug. 2025 – Jul. 2026
<b>École Polytechnique Fédérale de Lausanne (EPFL)</b> <i>BSc in Computer Science (QS World #10 in Eng. &amp; Tech.)</i>	Lausanne, Switzerland Sep. 2023 – Jul. 2026
<ul style="list-style-type: none"><li>• <b>Concentration:</b> Software Engineering</li><li>• <b>Relevant Coursework:</b> Web Development, Algorithms, Database Design, Computer Architecture, Object-Oriented Programming, Functional Programming, Distributed Systems, Computer Security.</li></ul>	

## EXPERIENCE

<b>Centre de Rencontres et d'Animation</b> <i>Youth Leader</i>	Lausanne, Switzerland Oct. 2018 – Aug. 2025
<ul style="list-style-type: none"><li>• Engage with children and teenagers, from <b>6 to 17 years old</b>, during weekly open sessions and holiday camps.</li><li>• Design and facilitate recreational and educational activities tailored to group dynamics.</li></ul>	
<b>Swiss Armed Forces</b> <i>Infantryman, Squad Leader</i>	Zurich, Switzerland Jul. 2022 – Apr. 2023
<ul style="list-style-type: none"><li>• Completed <b>300 days</b> of full-time military service in demanding physical and mental conditions.</li><li>• Led a squad of <b>4 soldiers</b> during field exercises, managing decision-making in high-pressure environments.</li></ul>	

## PROJECTS

<b>Document Management System (DMS)</b> 🛠️   <i>Java, Docker, SQLite</i>	Aug. 2025 – Oct. 2025
<ul style="list-style-type: none"><li>• Engineered a <b>Dockerized database system in Java</b> for critical hospital records by implementing and benchmarking <b>SQLite</b> vs. custom <b>TSV</b> backends.</li><li>• Designed a custom serialization pipeline where the TSV format demonstrated <b>12x faster serialization</b> (0.027ms) and <b>38% greater space efficiency</b> than CBOR.</li><li>• Confirmed <b>sub-2ms query performance</b> for both storage backends after initialization.</li></ul>	
<b>Distributed Key-Value Store</b> 🛠️   <i>C, Concurrency, Networking</i>	Mar. 2025 – Jun. 2025
<ul style="list-style-type: none"><li>• Built a <b>distributed key-value store in C</b> inspired by <b>Amazon Dynamo</b>, supporting configurable <b>quorum-based replication</b> (N, W, R).</li><li>• Validated system resilience by designing a <b>peer-to-peer architecture</b> with virtual nodes and engineering testing tools for failure scenarios.</li></ul>	
<b>Functional Connect 4</b> 🛠️   <i>Scala, Functional Programming, Web Development</i>	Nov. 2024 – Dec. 2024
<ul style="list-style-type: none"><li>• Developed a <b>multiplayer web app in Scala</b>, applying <b>functional programming</b> principles to ensure state immutability.</li><li>• Enhanced user experience by implementing real-time game mechanics, turn timers, win detection and <b>persistent score tracking</b>.</li></ul>	
<b>ChaCuN</b> 🛠️   <i>Java, JavaFX, Object-Oriented Programming</i>	Feb. 2024 – Jun. 2024
<ul style="list-style-type: none"><li>• Replicated complex board game logic by building a <b>multiplayer tile-based game</b> from scratch in <b>Java</b> using <b>JavaFX</b> and advanced Object-Oriented Programming patterns.</li><li>• Optimized game flow by designing algorithms for tile placement validation, player turns and <b>automated scoring logic</b>.</li></ul>	

## 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)