Julien Larzul

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Education

Université du Québec à Chicoutimi (UQAC)   **Expected Graduation: 2026**
Master's in Cybersecurity   *Chicoutimi, QC, Canada*

Polytech Lyon   **2021 – Expected Graduation: 2026**
Diplôme d'ingénieur en informatique (Computer Engineering)   *Lyon, France*

- Double degree program: Engineering and Master's studies in Cybersecurity
- Relevant coursework: Cybersecurity, Data Analysis, Computer Networks, Software Engineering, Algorithms, Machine Learning

Work Experience

Lizeo Group   **Sep 2024 – Jan 2025**
R&D Intern – Machine Learning   *Lyon, France*

- Optimized **Large Language Models (LLMs)** for **opinion mining**, testing prompt engineering strategies and automating CSV pipelines for large-scale sentiment analysis, reducing manual processing time.
- Benchmarked and integrated alternative models via **AWS Bedrock (Claude 3.5 Sonnet)** to reduce monthly costs of GPT-4 usage, learning **YAML** configuration and API deployment.
- Developed an image compliance verification pipeline for **Rolex**, leveraging **ResNet50 embeddings** and **cosine similarity** to automate retailer homepage conformity checks.
- Compared feature extraction methods (**SIFT, ORB, SURF**) and implemented SURF for layout validation through **gravity center distance matrices**.
- Contributed to an OCR fusion project combining **KerasOCR, PaddleOCR, docTR** to enhance brand detection accuracy in watch retailer carousels.

Projects

Mobile Forensics (UQAC) | *Ongoing*   **Autopsy**

- Analyzed and extracted mobile device data (messages, GPS, images) on Android.
- Implemented traceability and evidence preservation workflows for digital investigations.

Log Management & Anomaly Detection (UQAC) | *Ongoing*   **ELK | Kibana | Rsyslog | Suricata**

- Deployed a SIEM using ELK (Elasticsearch, Logstash, Kibana) with IDS/IPS integration (Suricata).
- Created dashboards and correlation rules to detect anomalies and visualize intrusion attempts.

Metaheuristics Optimization (Polytech Lyon) | *2024*   **Python**

- Implemented metaheuristic algorithms (Tabu Search, Simulated Annealing) to solve NP-hard optimization problems.
- Developed visualizations (heatmaps, convergence analysis) to evaluate algorithm efficiency.

Slime Chunk Finder (Personal Project) | *2024*   **React | TypeScript | Java**

- Developed a Minecraft web tool to calculate and visualize slime chunks dynamically using Java's RNG.
- Built an interactive React interface with grid rendering, zoom, and dynamic overlays.

Technical Skills

Languages: Python, Java, SQL, HTML, CSS, JavaScript, PHP, .NET

Developer Tools: Git, AWS, Kibana, Elasticsearch

Libraries/Frameworks: ReactJS, Spring Boot, PostgreSQL

Spoken Languages: French (native), English (B2)