Léopold Chappuis

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Education

Université de Technologie de Compiègne, *Master of Science, Computer Science Engineering* 2021 – 2026 (expected) GPA: 4/4

Université Laval, *Master of Science, Computer Science Engineering* 2025 – 2027 (expected)

Courses: Algorithms & Data Structures, Object-Oriented Design & Programming, Operating Systems (UNIX), Computer Networks & Security, Machine Learning, Artificial Intelligence, Database Systems, Distributed Systems, Embedded Systems, Probability & Statistics, Automatic & Robotics DevOps & cloud-native applications, Software Quality, Mobile networks

Experiences

Fit Coding Challenge, Mostar, Bosnia and Herzegovina May 2025

- Competitive programming **(C++)** event focused on solving advanced algorithmic problems, similar to LeetCode challenges, under time constraints.

1st Prize — UTAC Autonomous Vehicle Competition, *Utonome* — Linas-Montlhéry proving ground, France May 2025

- Developed ACC, obstacle avoidance, and decision algorithms for an autonomous vehicle.
- Set up ROS-based real-time communication between server and vehicle.

Free Software Engineer Intern, *Savoir-faire Linux* — Montréal, Canada Aug 2024 – Feb 2025

- Core contributor to Jami (peer-to-peer DHT, C++).

Machine Learning Engineer, *Freelance* — Remote Feb 2024 - July 2025

- Worked for the Urban Research Department at the technical University of Compiègne. Urban traffic forecasting — TensorFlow, LSTM, SARIMAX.

Sysadmin, *Freelance* — Remote Oct 2023 – Aug 2024

- Hosted, secured and maintained Drupal & WordPress infrastructures, applying CI/CD and GDPR best practices.

IT Service President, *Students' Federation, UTC* — Compiègne, France May 2022 – May 2023

- Managed an IT ecosystem for 150 associations (mail servers, web hosting, LDAP directory, monitoring).

Event Technician, *Weezevent* — France Jun 2022 – Present

- Managed payment and access-control systems for large-scale festivals, ensuring real-time reliability.

Projects

AI – Board Game 2024

- Implemented Min-Max, Negamax, Alpha-Beta Pruning and Monte-Carlo Tree Search in Prolog to create a competitive AI.

C Development (Algorithms & Systems) 2024

- Built AVL trees, stacks, queues and IPC mechanisms (threads, semaphores, signals) to benchmark data-structure trade-offs.

Board Game in C++17 & Qt6 2024

- Designed an interactive board-game GUI, applying OOP and design-pattern best practices for maintainability.

Breast-Cancer Prediction – Machine Learning 2023

- Compared classifiers (Correlation Matrix, Naïve Bayes, Random Forest, KNN, LDA/QDA, Logistic Regression) to maximise AUC.

Inventory solution for an Association (React / Django) 2023

- Delivered a containerised inventory platform with JWT auth and GitHub Actions CI/CD.

Proxmox Homelab Server 2023

- Built a private cluster with multiple VMs, Docker containers and central LDAP authentication.

Technical Skills

Programming Languages: ROS, Rust, C, C++, Bash, Regex, Python (Django, Pandas, Numpy, Scikit-Learn), JavaScript (VueJS, ReactJS), PHP, Java

Tools: Git, Kubernetes, Vagrant, Docker, CI/CD (Gitlab/Github Actions/Jenkins), Terraform, Proxmox, Linux

Leadership & Community Involvement

Elected Student Representative, Council of Studies and University Life — UTC 2023 – 2025

Technical Light & Sound Association (Student Events) — UTC 2021 – 2023

International Experience: Lived in Africa for 8 years 2003 – 2011

- Developed strong adaptability and cross-cultural communication skills.

Languages

French, English — Fluent Spanish — Intermediate