Jules ESPINOUX

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Experience

Software Engineer Intern **April 2026 – October 2026**
Mistral AI *Paris, France*
- Designed, built, and shipped MCP Debugger end-to-end, a public developer platform used by external developers to debug MCP connectors, cutting connector debugging time by over 70%.
- Led product design iteration, aligning the tool with developer needs through direct feedback, boosting adoption by 15%.
- Strengthened the platform's early-stage security by implementing purpose-bound crypto helpers for encrypted blobs and hardening OAuth 2.0 flows, preventing credentials from being exposed in plaintext in the browser.
- Resolved Sev1/Sev2 production incidents and shipped authentication fixes, reducing authentication friction for 50+ users.

Software Engineer Intern **August 2025 – October 2025**
Athena Studio *Luxembourg City, Luxembourg*
- Designed and built from scratch a scalable, developer-facing monitoring dashboard for production systems, reducing manual analysis time by 60% and supporting faster troubleshooting of operational issues.
- Leveraged GenAI to build an LLM-based clustering pipeline automatically grouping 30k+ user queries into key topics.
- Automated testing and CI/CD workflows, increasing code coverage from 0% to 85% and improving release reliability.

Software Engineer Intern **February 2025 – July 2025**
Salomon *Annecy, France*
- Developed a beta mobile application with Flutter (iOS/Android), expanding the tester base from 8 to 120 users.
- Led backend development by building Serverless REST APIs with Node.js and designing scalable data pipelines with AWS DynamoDB and S3, enhancing data availability and supporting mobile feature integration.
- Automated multi-env deployments and CI/CD pipelines, including App Store and Play Store releases.
- Partnered with UX designer, led workshops, and conducted 10+ user interviews to refine features. Participated in daily Agile stand-ups, gaining solid Scrum experience.

Software Engineer Intern **March 2024 – July 2024**
French Ski Federation *Prémanon, France*
- Conceived from scratch a full-stack analytics platform using PostgreSQL, FastAPI, Docker, Streamlit, and GitLab CI for automated deployment. Introduced new performance insights, reducing race analysis time by 70%.

Education

ISAE-SUPAERO **2022 – 2026**
Master of Engineering, Data and Decision Science *Toulouse, France*
- **Coursework:** Machine Learning, Deep Learning, Big Data Engineering, High Performance Computing, Mathematics.
- **Thesis:** 3D Medical Image Segmentation using Convolutional Neural Networks and Transformer architectures.

University of Limerick **Autumn 2024**
Erasmus semester, Data Science *Limerick, Ireland*
- **Coursework:** Machine Learning, Deep Learning, Database Systems, Advanced Data Analysis.

Projects

Victorian Author Attribution | *Python, Machine Learning, NLP, Scikit-Learn* **November 2025**
- Achieved 95% accuracy in author prediction by training and tuning machine-learning classifiers on text features.

Kaggle Hackathon – Heart Risk | *Python, Machine Learning, Data Engineering, Scikit-Learn* **November 2025**
- Designed and implemented a complete data preprocessing pipeline for a large-scale health dataset with 200k+ rows. Achieved 75% accuracy in predicting heart attack risk by developing machine learning models (Random Forest, SVM).

TurboKMeans | *C, OpenMP, High Performance Computing (HPC)* **October 2025**
- Parallelized a K-Means-based image compression algorithm achieving a 4× speedup vs single-thread baseline.

Hackathon ENS | *PowerShell, Makefile, Docker* **June 2025**
- Created a PowerShell script to streamline Windows dependency setup, cutting bugs and boosting speed by 15%.

Skills

Programming Languages: Python, TypeScript/JavaScript, C, Dart, SQL.
Cloud & DevOps: AWS (DynamoDB, S3), Docker, Kubernetes, Fastlane, GitLab CI/CD, GitHub Actions, Grafana.
Frameworks: PyTorch, Scikit-learn, FastAPI, Redis, Flutter, Selenium, SpiceDB.
Auth & Protocols: OAuth 2.0, MCP Protocol, RBAC, Permission Management.
Languages: French (native), English (C1).

Additional Activities

- **Chess:** Competitive FIDE player (Elo 1954), consistently ranked top 20 nationally in French Youth Championships.
- **Triathlon:** Regularly compete in endurance events, demonstrating discipline, goal-setting, and long-term commitment.