Fares Bentaleb

French Citizenship – fbentaleb@juniorisep.com – GitHub – LinkedIn – Portfolio

Education

Paris Institute of Digital Technology (ISEP) Expected July 2027

Master's Degree in Computer Science

- **Exchange Program:** Inha University – South Korea

Experience

Technical Manager September 2024 – Present

Junior ISEP *Paris, France*

- Executed Python & Gemini API solutions for automating document generation (95% manual effort reduction) and spearheaded a full Flask backend refactor, enhancing stability with Docker & SQL.
- Drove development in 3 hackathons, building data-centric applications (Python to Angular/Spring/MinIO) while mastering advanced Docker, GitLab CI/CD pipelines, and VM deployment for rapid prototyping.
- Driving the creation of sophisticated internal operational tools, significantly upgrading an internal production system and architecting an AI solution projected to cut document redaction effort by >99% (from 8 days).

Projects

Stochastic Modeling & Simulation github.com/Far3000-YT/SDE-Simulation-Analysis

- Built and validated Python simulators for 4 diverse SDE models (GBM, OU, CIR, JD) relevant to asset pricing and interest rate modeling, applying 2 numerical schemes (EM/Milstein).
- Quantified numerical accuracy through strong convergence tests (GBM, OU, CIR), validating theoretical orders (0.5 for EM, 1.0 for Milstein) and Milstein's advantage for non-constant diffusion (CIR).
- Utilized simulation framework for quantitative tasks: priced European options (MC validated vs Black-Scholes over 1M paths) and explored 3-parameter MLE estimation (OU), documenting numerical challenges.
- Constructed and backtested a DMA trading strategy (SPY, 15+ years) using Python/Pandas, performing grid search parameter optimization (∼800 sets) and visualizing results.

Codebase Transformation for AI-Driven Analysis github.com/Far3000-YT/lumen

- Launched Lumen (>2000 downloads on PyPI), a Python utility creating structured data views from codebases, significantly boosting efficiency and optimizing context for AI analysis.
- Implemented a robust Python engine for recursive file system traversal, smart encoding detection, and parsing of diverse project layouts across 20+ languages, with customizable filtering and GitHub repository analysis.
- Designed Lumen to provide deep, structured code understanding for LLMs, enhancing AI accuracy for complex system analysis and offering token insights for efficient context management.

Leadership & Volunteering

Garage ISEP September 2024 – Present

Student-Run Coding Lab

- Led backend development for a JavaFX app at Garage ISEP, engineering its Spring Boot API (17 endpoints for data processing/retrieval); also acquired Bash and initial Docker skills.
- Secured 3rd place in the Capgemini Silicon Days, a cybersecurity hackathon, as part of a 4-person team, creating an AI-driven email analyzer featuring privacy-preserving techniques for threat scoring.
- Presented a Git workshop to over 40 students, promoting best practices in version control.

Secours Catholique March 2024 – Present

Volunteer Tutor

- Tutoring middle/high school students weekly (2 hours/week) across diverse subjects (Math, Physics, Languages, etc.), adapting teaching methods.

Skills

Programming: Python (Pandas, NumPy, Jupyter Notebooks/Lab), SQL, Bash/Linux, Java
Databases: MySQL, PostgreSQL, MongoDB
Tools: Git, Docker, Flask, FastAPI, GitLab CI/CD, REST APIs, Google Cloud Platform (GCP), Matplotlib