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

Tech Consultant September 2024 – Present

Junior ISEP *Paris*

- Leveraged Python and Google's Gemini API to automate technical documentation generation, implementing prompt engineering and JSON data handling to process inputs (PDF, DOCX) and achieve a 95% reduction in manual effort.
- Took initiative beyond initial scope to refactor and stabilize the application's backend (Flask), implementing improved architectural patterns, comprehensive logging, and bug fixes, ensuring operational stability.
- Applied Docker for environment consistency and deployment, SQL for data persistence and retrieval, and robust logging frameworks to support the refactoring and stabilization of the backend application infrastructure.

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/PTAP

- Launched PTAP (>500 downloads on PyPI), a Python utility that creates structured data views from codebases, significantly boosting efficiency for AI analysis.
- Implemented a robust Python engine for recursive file system traversal and parsing of diverse project layouts across 20+ programming languages, with customizable filtering.
- Designed PTAP to enhance the accuracy and efficiency of AI code analysis by providing complete project context, facilitating tasks like anomaly detection and performance optimization.

Leadership & Volunteering

Garage ISEP September 2024 – Present

Student-Run Coding Lab

- Contributed to collaborative backend/API development projects in a student-run coding lab.
- 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, Scipy), SQL, Bash/Linux, Java
Databases: MySQL, PostgreSQL, MongoDB
Tools: Git, Docker, Flask, FastAPI, GitLab CI/CD, REST APIs, Google Cloud Platform (GCP), Matplotlib