Hamza Kalim

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github.com/hkm8850

Profile

Second-year engineering student at ENSEEIHT, majoring in HPC and Big Data. Passionate about aeronautics, AI, and data-driven innovation. Curious and collaborative, eager to discover the hackathon environment and contribute to creative solutions that combine technology and sustainability. Motivated to work with diverse profiles to design the aviation of tomorrow.

Education

ENSEEIHT, HPC and Big Data — Sept 2024 – Oct 2027

- **Coursework:** Programming (Imperative & Functional), Algorithms, Data Analysis, Machine Learning, Computer Architecture, Operating Systems, Networks, Telecommunications, Optimization, Software Engineering

Moulay Youssef High School, Preparatory classes — 2022 – 2024

- **Coursework:** Mathematics, Physics, Computer Science, Engineering Sciences

Experience

Member, ASTRE'LAUNCH club – ENSEEIHT, Toulouse — Oct 2025 – Present

- Member of a student team preparing a future rocketry project

Volunteer Tutor, Secours Populaire – Toulouse — Oct 2025 – Present

- Provide one-on-one tutoring in math and physics for a high school student
- Develop personalized exercises and track progress weekly

Warehouse Worker (Temporary Contract), PAACK – Toulouse — July 2025 – Aug 2025

- Sorted and organized parcels in a logistics center
- Ensured accurate dispatching and maintained work area efficiency

Projects

Process Model Verification Chain — Sept 2025 – Oct 2025

- Built a complete verification chain to check process model termination
- Used model transformations from SimplePDL to Petri Nets and validation with TINA and LTL properties
- Technologies: Eclipse Modeling Framework (EMF), ATL, Acceleo, Xtext, Sirius, Java

Traffic Simulator (Team project of 8 students) — Mar 2025 – May 2025

- Simulated vehicle movement on a modeled map
- Managed continuous trajectories, orientations, and intersection behavior
- Technologies: Java

Mini-Shell Unix — Apr 2025 – May 2025

- Developed a minimalist Unix shell in C
- Managed basic commands, processes, and system signals
- Technologies: C, Unix system calls, process management

Dijkstra Algorithm — Apr 2025

- Implemented Dijkstra's algorithm to find the shortest path in a weighted graph
- Technologies: C, graph theory

Nim Game (13 Matches Variant) — Sept 2024

- Programmed a strategic game implementing winning logic
- Adapted the code in two languages (ADA and Java)

- Technologies: ADA, Java, algorithms

Technologies

Languages: C, Java, Python, ADA, OCaml

Tools & Technologies: Eclipse, VS Code, Git, Linux, MATLAB, ATL, Acceleo, Xtext, Sirius, TINA