

# Rais Mohamed Malek

Full-Stack Developer & AI Enthusiast

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## EDUCATION

Master's in Software Engineering – Université Paris-Est Créteil (UPEC)

Expected: Sept 2025 – June 2027

Bachelor's in Computer Science – Université Paris-Est Créteil (UPEC)

Sept 2024 – June 2025

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## TECHNICAL SKILLS

- Languages : **Java**, **TypeScript**, **JavaScript**, **Python**, **C**, **OCaml**, **Scala**, **SQL**, **HTML**, **CSS**, **Bash**
- Frameworks & Libraries : **React**, **Node Js**, **Express JS**, **Spring Boot**, **scikit-learn**, **LangChain**, **pandas**
- Tools & Environments : **Git**, **Docker**, **Linux**, **MySQL**, **Redis**, **CI/CD (GitHub Actions, etc.)**
- Concepts : **Object-Oriented Programming (POO)**, **Microservices**, **REST API**, **CI/CD**, **Unit Testing**, **Agile Methodologies**

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## TECHNICAL PROJECTS

**Algorithm Visualizer** - Live Demo : ( [algo.mmalekrais.com](#) )

[Data Structures & Algorithms \(DSA\)](#), [Data Visualization](#), [Complexity Analysis](#), [Next JS](#), [Typescript](#), [Git](#)

- Developed an interactive web app to visualize **sorting** (Bubble, Merge, Quick, Heap) and **pathfinding algorithms** (Dijkstra, A\*, BFS, DFS).
- Integrated advanced features: **step-by-step animation**, **grid resizing** (10x16 to 40x64), **table resizing** (10-100 elements), **drag-and-drop wall creation**, **speed control**, **pause/resume**, **diagonal movement** support.
- Explained the **logic**, real-world **use cases**, and **complexity** of each algorithm.
- Wrote **implementations** in **multiple languages** (JavaScript, Python, Java, C++, C).

**2D Adventure** - Github Repo : ( [repository](#) )

[Java](#), [OOP](#), [Event-driven programming](#), [Basic physics](#)

- Created a 2D game with a performant **game loop**, **tile rendering**, **object/NPC management**, and **collision detection**.
- Enabled **character controls**, **game state** transitions (pause, win, lose), and **dynamic scene** updates.
- Designed a **modular architecture** to easily add new gameplay mechanics.

**Real Estate Price Prediction App** - Github Repo : ( [repository](#) )

[Python](#), [Scikit learn](#), [requests](#), [BeautifulSoup](#), [Pandas](#), [matplotlib](#)

- Built a **Python** scraper using **requests** and **BeautifulSoup** to extract **450+** real estate listings.
- Filtered out **invalid data** via **custom exceptions** and enriched datasets with geolocation.
- **Cleaned and transformed** the data using **pandas** (missing value handling, one-hot encoding).
- Trained and evaluated multiple **regression models** (Linear Regression, Decision Tree, k-NN).
- Used **PCA** for dimensionality reduction and analyzed feature correlations.

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## ACTIVITÉS

- **3rd place – Micro Hackathon (2024)**
- Solved **100+** **LeetCode** challenges (**Medium/Hard level**)
- Self-learned **System Design** principles: scalable architecture, microservice patterns, distributed data handling
- Led **HTML/CSS** workshops for **20+** participants