

# Aziz Hidri

📍 Montréal    ✉ aziz.hidri@polymtl.ca    ☎ +1 5142140931    🔗 azizhidri.com    in LinkedIn    📄 GitHub

## Education

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**BEng Polytechnique Montréal**, Software Engineering

2022 - 2026

## Projects

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### Tactical RPG Platform:

[Tactical-RPG-Platform](#) 🔗

- Developed a minimalistic tactical RPG platform where players engage in grid-based gameplay featuring various terrains, obstacles and turn-based combat. The project involved the following technologies :
- **Frontend:** Used **Angular** with **TypeScript** to build a dynamic and responsive user interface.
- **Backend:** Implemented server-side logic with **Nest.js** and to manage game mechanics and player interactions.
- **Database:** Integrated **MongoDB** to handle data storage for player stats, maps and game states.
- **Features:** Included map navigation, turn-based combat, interactive elements, a game editor for creating new games and scenarios, a chat feature for player communication, activity logging for game events, and the possibility to compete against virtual players.
- **Testing:** Conducted client-side testing using **Jasmine** to ensure component functionality, and performed server-side testing with Jest to validate API endpoints and core game logic.

### Melanoma Classification and Detection

[Melanoma Classification](#) 🔗

- Developed a deep learning-based image classification pipeline for detecting melanoma in skin lesions. The project involved the following technologies:
- **Model Architecture:** Designed a **CNN** with **TensorFlow/Keras**, using batch **normalization**, max pooling, and dropout for robust and accurate classification.
- **Data Preprocessing:** Implemented automated data augmentation and preprocessing techniques, such as random flips, rotations, and zooms, to improve model generalization.
- **Visualization:** Plotted **confusion matrices** (raw, normalized by row and column) and classification metrics for detailed performance analysis.
- **Evaluation:** Achieved high classification accuracy on test data with metrics like precision, recall, and **F1-score** validated through a classification report.
- **Technologies used:** **Python, TensorFlow/Keras, Matplotlib, Scikit-learn.**

### Personal Portfolio Website

[azizhidri.com](#) 🔗

- Designed and developed a personal portfolio website to showcase projects and skills in web development and programming. The project involved the following technologies and features:
- **Frontend:** Built with React and Vite for a fast and modern development experience, using JSX for dynamic and reusable components. Used Tailwind CSS to create a responsive, clean, and visually appealing design.
- **Deployment:** Hosted on GitHub Pages, ensuring high availability and fast loading times.
- **Custom Domain:** Configured a custom domain by setting up DNS records, includ-

ing CNAME and A records, to map the domain to the deployed site.

- **Technologies used:** React, Vite, Tailwind CSS, GitHub Pages.

## Technical Skills

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**Programming Languages:** Proficient in C++, JavaScript, Typescript and Python, Familiar with Java and SQL.

**Mathematics:** Calculus, Probability and Statistics, Linear Algebra, **Machine Learning (Regression, Optimization, Regularization, Model Selection, Classification, Neural Networks).**

**Other Skills :** Data analysis, Source Control via Git, MVC Architecture, Agile development and Software Design.

## Soft Skills

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**Teamwork and Collaboration:** Worked effectively in Agile teams to deliver high-quality software products.

**Time Management:** Skilled in managing multiple priorities and meeting deadlines under pressure.

**Communication skills:** Good communication skills, with experience using tools like PowerPoint to create clear and engaging presentations.

## Extra-Curricular Activities

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### **PolyOrbite - Public Relations Team Member:**

- Active member of PolyOrbite, a technical society at Polytechnique Montréal focused on the development of rovers and satellites. Contributed to the development of the organization's website using **TSX (React with TypeScript)**, **Next.js**, and **Tailwind CSS** to create a modern, responsive interface. Worked specifically on the Rover and Education pages, implementing interactive features and ensuring a seamless user experience. The website highlights PolyOrbite's projects and achievements while aligning with the society's mission and technical accomplishments.