

Hugo Mouton

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🌐 unmoutonperdu.github.io in hugo-mouton- 🔄 UnMoutonPerdu

Education

Polytechnique Montréal
M.Eng. in Computer Science

Montréal, QC, CA
Sept 2023 - Now

- GPA: 3.6/4.0
- Double degree with ISAE-Supaero. Recruited on results through it
- **Coursework:** Unsupervised Learning and Time Series, Stochastic Processes, Deep Learning, Machine Learning, Artificial Intelligence: Methods and Algorithms, Natural Language Processing, Graph theory

ISAE-Supaero
M.Sc. in Aerospace Engineering

Toulouse, FR
Sept 2021 - Now

- GPA: 3.8/4.0
- Recruited through the Mines-Ponts competitive examination
- **Coursework:** Fluid mechanics, Strength of materials, Artificial intelligence, Computer language paradigms, Advanced topics in mathematics

Lycée Louis Le Grand
Preparatory Class

Paris, FR
Sept 2019 - June 2021

- MPSI then PSI* student
- Admitted to the preparatory class after passing the French science baccalaureate with distinction

Professional Experiences

Software Engineer Internship
Expedia Group

Montréal, QC, CA
May 2025 - August 2025

- Development of a monitoring feature for LLM localization requests
- Integration of a RAG to improve the localization context
- Development of a rollback feature to correct requests in case of challenges

Software Engineer Internship
Boréal SAS

Castanet-Tolosan, FR
July 2022 - August 2022

- Preparation of flight missions
- Drone monitoring during flight
- Development of a flight data analysis tool
- Development of a graphical user interface for presenting results

Computer center console team leader
ISAE-Supaero

Toulouse, FR
March 2022 - March 2023

- Service to computer center users
- Management of the console operator team, maintenance and formation
- Supervision of ISAE-Supaero's IT equipment in conjunction with teaching staff
- Helping to set up lectures, practical courses and activities linked to the master's program

Honors and Awards


- Finalist in the Prologin 2022 competition
- Finalist in the French Robotics Cup with the ISAE-Supaero team in 2022 and 2023
- Recipient of the Fondation Georges Besse Excellence Scholarship since 2021

Research Experiences

Research Internship

École polytechnique computer laboratory (LIX)

*Palaiseau, FR
April 2023 - July 2023*

- Verification of neural network-based controllers
- Approximation and compression of ReLU-based neural networks
- Implementation of a library for modeling tropical polyhedra and study their propagation through a neural network ([GitHub repository](#) )

Projects

Simulation of particle collisions

[GitHub repository](#)  - [Post on my blog](#) 

- Developed basic implementation of a simulation of the movement of particles confined in a box supposing subjected only to elastic collisions
- Two Implementations in C using SDL

Compilers

[Shakespeare compiler](#)  - [Chicken compiler](#) 

- Two compilers of two esoteric programming languages
- Implementation of the different compiler architecture blocks

Package for polyhedra manipulations

[GitHub repository](#) 

- Implementation of the external representation of tropical polyhedra
- Code in Julia

Modelling and preliminary study of a microsatellite


- Study to design a cubesat satellite to monitor the oceans and detect the presence of aquatic life. Definition of technical aspects concerning its orbiting and trajectory. Choice of sensors and design materials.
- Use of Scilab for numerical simulations and calculations, and VTS for spatial data visualization

Activities

Internal Communications Manager of Sports Association

ISAE-Supaero

*Toulouse, FR
February 2022 - February 2023*

- Maintaining relations between sports clubs and the association
- Search for partnerships for sporting events
- Automation of registrations and payments via the association's website
- Website restructuring and maintenance ([AS ISAE-Supaero website](#) )

President of the robotics club

ISAE-Supaero

*Toulouse, FR
May 2022 - May 2023*

- Search for partners to finance the club
- Team management and school communications
- Recrutement and formation of new club members in their respective poles

Skills

Languages:

- **French:** Native
- **English:** Fluent - TOEFL: 95/120
- **Spanish:** Academic level

Programming languages: Python, PyTorch, C, C++, Java, R, Scala, Prolog, OCaml, Matlab, HTML/CSS/JavaScript, SQL, Kotlin, Spring Boot

Technologies: Microsoft 365, TIBCO Statistica, Android Studio, Docker, Git, LaTeX, Linux, ROS (Robot Operating System)