ARTHUR OUDEYER

ISAE-Supaero, Engineering Curriculum

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PROJECT

Currently studying science and engineering at ISAE-Supaero (Toulouse), I am interested in aerospace, computer science, and understanding physical and biological phenomena. I am moving towards research or engineering on cutting-edge topics.

EXPERIENCE

Sabena technics - Internship
June-July 2025 - Worker
Technical assistance on A300-600 ST
Aeronautic Maintenance

Valemo - Internship
June 2021 - Observation
Installation and Management of Wind Farms and Photovoltaic Parks
Electric networks - Control

Toulouse Institute of Fluid Mechanics - Internship
June 2021 - Discovery Internship
Flow control, boundary layer instabilities
Simulation - Fluids models - Optimisation

Dronisos - Internship
Juillet 2020 - Observation
Development of drone fleets and creation of shows
Drones fleet - Automatic - Communication Networks

Aérocampus Aquitaine - Internship
Juin 2019 - Observation
Mechanics and Avionics Training, Events
Mechanics - Avionics - Administration

FORMATION

ISAE-Supaero (Toulouse, France)
2024-2025 - Engineering Curriculum
World leader in aerospace education
Aerodynamics - Fluid Mechanics - Computer Science - Embedded Systems - Thermodynamics - Materials

CPGE Lycée Saint-Louis (Paris)
2022-2024 - MP2I, PSI
Preparation for the **CPGE science competitive exam**
Algebra - Analysis - Computer Science - Mechanics

Lycée Français Stanislas (Montréal) - Terminale
2021 - **Baccalaureate with honors**

SKILLS

Techniques :

- **Frameworks/Languages** : Python *(Avancé)*, C/C++, Java, RaspberryPI, Arduino, ESP32, Teensy, Pygame, Scikit-learn, PlatformIO, SQL, OpenCV
- **Tools** : Git, Docker, VScode, Pycharm, Ableton Live, Solidworks, Fusion, FreeCAD, OBS
- **Manual :** 3D Printing, Electronics, Soldering, Wood work, Laser Cutting

Language :

- French *(Natif)*
- English *(Fluide)*
- Spanish *(Notions)*

SCIENCE Interest

- **Technical Clubs** :
  - Technologic Club (Autonomous Martian Rover, competition CGénial) (2016-2019)
  - StanRobotix (concours First Robotics) (2021)
  - Robotik (Président 2025-26), National French Robotic Cup (2024-2025)
- **Participation :**
  - General Mathematics Competition (2022)
  - Club Maths+ (2021)
  - Alkindi competition finalist (Cryptologie, 2019)
- **Aeromodeling** : Design and creation, mechanics and electronics of RC models

CULTURAL Interest

- **Music :** Computer-aided music production (DAW), sound engineering, voice recording
- **Workshop art :** drawing, painting, sculpture (2025)
- **Sport :** Tennis, Breakdancing (club president), Triathlon, Ultimate
- **Citizenship :** Member of the Youth City Council (2014-2015)

Personal Project

Informatics projects are an opportunity to explore, discover, and improve my skills in many different areas.

Details : **Github Personnal Page**
Project Siteweb
Projects Videos Demos

IA for Science :

- Evolutionary Algorithm (Cellular Automata, Walk Learning) (see Cellular Evolution, Hestia)
- Neural Networks (see AI models to predict trajectories of paper airplane)

Physics Engines :

- Newtonian Mechanics (Celestial Simulation, Springs)
- Verlet Integration (Particle Base 2D Engine)

Biology and Terrain:

- Behavior (Ants, Shoal of fishes)
- Terrain generator (Map Generator)
- Particle simulation (Particle interaction)

Games :

- Arcade games (see *Space Frontier*, Sky Fighter, FPS Jet, Mini Racer)
- Platformers (Platformer, MissionZ)

Images :

- Colors processing (*Vibes*)
- Fourier Image Compression (DFT)

Challenges :

- Root-me (Cyber-security, cryptology)
- Advent of code
- FranceIOI