

# Harold Gardon

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Stanford student pursuing a Master of Science in **Aeronautics and Astronautics**

## Education

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**Arts et Métiers ParisTech** (France): combined *BS and MS in Mechanical and Industrial Engineering (2023-2025)* **GPA: 3.99/4**

- Top-ranking French Graduate School of Mech. Engineering | Relevant coursework: Solid mechanics, Materials science, CAD, Management sciences, Fluid mechanics, Thermodynamics, Electrical engineering, Machining (**Ranked 33/1,143**)

**Massena High School** (France): *Preparatory Classes (CPGE) for top French engineering schools (2021-2023)* **GPA: 4/4**

- Top-ranking CPGE | Highly intensive program in PCSI track: Physics, Chemistry, Mathematics and Engineering Science
- Second year in "classe étoile" - most selective class to prepare for the French Grandes Écoles selective entrance exams

**Massena High School** (France): *French Baccalauréat (eq. to high school diploma) awarded **Summa cum Laude*** **GPA: 4/4**

- Relevant courses: Mathematics, Physics, Chemistry
- Selected by the school to take part in the **National Competition in Mathematics and Philosophy**

## Selected academic and research projects

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### C'Space challenge (2024-2025)

- A very prestigious competition organized by CNES, enabling students from France's top engineering schools to compete against each other by creating a complete experimental rocket capable of flying up to 4 km (based on CNES specifications)
- Preliminary study of the flight, Abaqus models, rocket sizing, CAD model of each component and overall assembly of the rocket
- Implementation of a complete electronic circuit for in-flight parachute deployment control and fuselage deformation measurement
- Overall design of a **1.5-meter experimental rocket** (excluding the engine supplied by CNES)
- Flight scheduled in July 2025 with measurement of the deformations and recovery of the rocket from the ground

### Wind turbine gearbox modeling (2023)

- Dimensioning of all gearbox parts using calculations of the torques and forces transmitted in the mechanism (based on specification)
- CAD model of all the parts including the casing, planetary gear train and shafts
- Assembly of the planetary gear train with the rest of the mechanism and positioning of the casing

### Hydrogen fuel cell design project (2024)

- Sizing of the compressor using specifications and Python simulations, full CAD modeling (rotor, volute)
- 3D printing and thermodynamics tests to validate the design

### Rubik's cube modeling (2024)

- Modeling of a fully functional Rubik's Cube (size nxn) using Python and FreeCAD and implementation of 3D animations using object programming on FreeCAD
- Partial coding of the Rubik's cube solving program. Best project in the class (**A+ rating**)

### Impact-resistant protection with non-Newtonian fluids (2022-2023)

- Study of rheo-thickening fluids and application to make malleable but highly impact-resistant sports and bulletproof protection
- Research project carried out in a laboratory with the help of professional researchers

## Internships & Professional experience

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### Internship at Airbus Helicopters (June-July 2024)

- One-month internship in the final assembly line of Super Puma helicopters (civil and military versions)
- Obsolescence management on site and remotely on computer (checking problems on each helicopter component and taking steps with suppliers or teams)

### Internship at a design office (Jan 2018)

- Internship at an architectural engineering firm (Axybat): contract negotiations, construction site meetings, plan studies

### Private tutor Part time (Feb. 2024 – June 2024)

- Physics and math lessons for high-school students

## Volunteering

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### Donations and distribution (2011-2023)

- Donations of clothes, food and toys to an association every winter for ten years to help the most disadvantaged people in my town

### Food drive (2023)

- 2 tons of food collected over two days with my cohort to redistribute to an association for people in need

### Member of the AM'space Astronomy club (2024-2025)

- "AM'space" aims to make space observation, space study and astrophotography accessible to all students

## Skills

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**IT / Programming:** Python (advanced), Catia V5/V6 (advanced), Abaqus (intermediate), MS Office (expert), Matlab (intermediate)

### Languages:

**French:** Native language

**English:** Fluent (**TOEFL iBT: 97, MyBestScore: 100**)

**German:** Intermediate

## Miscellaneous

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**Sport:** Basketball (9 years as a shooting guard), Volleyball (5 years)

**Music:** Clarinet (2 years in a French conservatory), Piano (self-taught)

**French cinema** (+400 movies)

**Travel:** USA (NYC, West coast road trip), Canada (road trip), Singapore, (visited over 15 countries)