

# Maxime Hache

maxime\_hache@berkeley.edu | +1 (341) 253-3096 | LinkedIn | Portfolio  
 U.S. Work Authorization: F-1 OPT authorized; STEM OPT eligible

*New Grad Mechanical Engineer with hands-on experience taking hardware from CAD to prototype build and benchtop testing, with a manufacturing mindset (documentation, repeatability, troubleshooting).  
 Strong fundamentals in mechanics and thermal/fluid systems; comfortable analyzing test results (MATLAB/Excel) and communicating decisions through clear drawings and technical documentation.*

## Education

### University of California, Berkeley - GPA: 3.57/4.00

Berkeley, CA, USA

*Master of Engineering (MEng) in Mechanical Engineering - Product Design (Double-degree program) August 2025 – May 2026*

Relevant coursework: Robotic Locomotion; Dynamics and Control of Autonomous Flight; Advanced Designing for the Human Body; Advanced Special Topics in Design (Morphing Matter); Product Management; Design of Microprocessor-Based Mechanical Systems; Communications for Engineering Leaders.

### Arts et Métiers ParisTech - GPA: 3.75/4.00

Paris, France

*Master of Science (MS) in Mechanical and Industrial Engineering*

*August 2023 – June 2026*

### CPGE Lycée Newton

Clichy, France

*Bachelor of Science (BS) in Mechanical Engineering*

*August 2021 – June 2023*

Combined relevant coursework (Arts et Métiers / CPGE): Solid/structural mechanics; materials science; fatigue analysis; manufacturing processes; product and system design; control systems; electronics/electrical machines; thermodynamics; heat transfer; fluid mechanics; probability/statistics; numerical methods.

## Work Experience

### Manufacturing Engineering Intern, RENAULT – Cléon, France

*June 2024 – July 2024*

- Improved throughput by 4% on a 500/day cylinder head production line by executing standardized work instructions and implementing best practices (5S, safety checks).
- Improved first-pass yield by 7% by coordinating process changes with operators/maintenance, setting up jigs, supporting safe rigging of 20 kg fixtures, troubleshooting recurring faults, and documenting corrective actions.

## Projects

### Smart Brace Sensor System for Adolescent Scoliosis | UC Berkeley

*September 2025 – May 2026*

- Improved repeatability of pressure-sensor validation by developing a calibration workflow, CAD/drawings, test procedures, MATLAB/Excel analysis, and revision-controlled documentation.

### Gyroscopic Glove for Hand Tremors | UC Berkeley

*September 2025 – December 2025*

- Reduced writing error by 2 mm and vibration by 7% by designing a wearable electromechanical device, assembling 3 iterations, and running 6 benchtop tests.

### Polymer Speaker | Arts et Métiers ParisTech

*January 2025 – May 2025*

- Improved output/bandwidth by 13% by developing a lightweight piezoelectric speaker, building a Bond Graph / 20-sim model, and defining mold/3D print/composite manufacturing methods.

### Hydraulic Turbine | Arts et Métiers ParisTech

*September 2024 – January 2025*

- Matched predicted performance trend within 89% by sizing a turbine in MATLAB/CATIA V5, validating flow behavior with CFD (Star-CCM+), and building/testing a prototype.

## Skills

**Mechanical Design**: 3D CAD (SolidWorks, CATIA V5, 3DEXPERIENCE), FEA (Abaqus), engineering drawings, GD&T (ASME Y14.5), tolerance analysis, DFM/DFA, FMEA, DOE, root cause analysis, technical documentation.

**Testing / Data**: Benchtop testing, test protocol writing, test fixtures/jigs, data analysis (MATLAB, Python, Excel), reporting and documentation.

**Thermal / Fluids**: Thermodynamics, heat transfer, fluid mechanics; CFD (Star-CCM+); pressure/flow measurement concepts.

**Manufacturing**: Rapid prototyping, CNC machining, welding, casting, plastic injection molding, jigs/fixtures, rigging basics, Lean manufacturing (5S), process changes.

**Professional**: Cross-functional collaboration, ownership mindset, attention to detail, clear communication.