

AOUANOUK Slimane

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Available for a Summer 2026 internship in engineering, research, or applied technology, with an interest in data-driven and computational approaches to physical systems.

Graduate Engineering student with a strong foundation in **physics-based modeling**, numerical simulation, CAD design, and experimental analysis applied to **mechanical systems**. Experienced in CFD, Python-based data analysis, and system-level engineering, with hands-on experience developing **AI-driven pipelines** and **physics-informed engineering systems**. Ranked in the **top 13%** of my cohort.

EDUCATION — Combined GPA : 3.92 / 4.00

Arts et Métiers Institute of Technology (ENSAM) — Paris, France

Sept 2024 – Jul 2026

Combined BS × MS Engineering Degree — Arts et Métiers is a member of ParisTech, a consortium of prestigious French institutions recognized for academic excellence, outstanding faculty, and world-class research laboratories.

- **Ranked top 13% of cohort (160 / 1203 students)**
- **Relevant Coursework:** Mechanical Design and Structural Analysis, Solid Mechanics, Robotics and Mechatronics, Computer-Aided Design (CAD), Design for Manufacturing and Assembly (DFM/DFA), Engineering Materials, Experimental Mechanics and Validation Testing, Fluid Mechanics, Heat Transfer, Numerical Optimization

SELECTED PROJECTS

AI-Driven Smart Workshop Project – Arts et Métiers

2025

- Built an end-to-end local data & AI pipeline to query technical workshop data in natural language; structured heterogeneous CSV data and migrated it to a relational SQLite database; validated and explored data using Python and pandas; designed SQL views to simplify complex joins and improve robustness; implemented a secure Text-to-SQL system powered by a locally deployed LLM (Ollama) with strict query constraints; developed a Streamlit interface enabling real-time usage and human-readable responses

Aircraft Brake System Design Project – Arts et Métiers

2025

- Designed a complete mechanical braking system for a light aircraft wheel composed of 10+ components using Fusion 360; built a physics-based functional architecture ensuring torque transmission across 5+ mechanical interfaces; quantitatively modeled load paths and mechanical constraints; performed engineering validations including bearing preload analysis, bolt slip criteria, shaft stress verification, and brake disc thermal dissipation; ensured system consistency through analytical checks and safety margins

Miniature Formula One Car Design – Arts et Métiers

2025

- Designed a miniature F1 car optimized for a 20 m straight-line race; developed the full CAD model in Fusion 360 with 3–4 design iterations; conducted CFD simulations in STAR-CCM+ at 50 m/s to analyze pressure and drag; used simulation results to guide aerodynamic optimization; produced a 3D-printed prototype and prepared CNC machining while ensuring compliance with 10+ technical regulations

Supervised Personal Research Project: Impact of Hitting Techniques on Ball Speed – Lycée Raspail 2021–2023

Designed a custom pendulum-based impact test rig to generate repeatable time-series data; conducted controlled experiments with video-based motion capture; extracted velocity and contact-time signals using Python; processed and analyzed temporal data to characterize impact dynamics; identified a velocity amplification ratio of approximately 1.2

WORK EXPERIENCE

Construction Site Worker Intern – Société de Rénovation Parisienne (SRP)

Summer 2025

- Supported large-scale construction operations on a major renovation project involving 3,000+ tons of excavated soil, Conducted on-site measurements, markings, and consistency checks under real-world tolerances during a 9–10 month underground phase, Coordinated with subcontractors and adapted plans to field constraints, gaining hands-on exposure to field data, safety requirements, and execution-theory gaps

LEADERSHIP AND VOLUNTEERING

Volunteer Tutor – Middle and High School Students

2022 – Present

- Provided academic support in mathematics, physics, and engineering sciences, focusing on problem-solving and structured reasoning

SKILLS AND INTERESTS

Data & Programming: Python (data analysis, numerical computation), SQLite, MATLAB, Arduino, LaTeX

Modeling & Simulation: Computational Fluid Dynamics (STAR-CCM+), Finite Element Analysis (Abaqus), Mechanical CAD (Fusion 360, 3DEXPERIENCE), Simulink

Experimental Tools: Video-based motion analysis, sensor-based measurements

Languages: French (native), English (fluent; TOEFL iBT: 88/120), Italian (basic), Spanish (basic)

Interests: Data-driven engineering, applied AI, technology ecosystems (Apple), basketball, soccer, strength training