AOUANOUK Slimane

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Available from June to August 2026

SUMMARY

Engineering student with a strong foundation in physics-based modeling, numerical simulation, and experimental analysis applied to mechanical systems. Experienced in CFD, Python-based data analysis, and system-level engineering projects, seeking a Summer 2026 internship to explore data-driven roles applied to physical systems.

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:** Mechanics of Solids, Robotics and Mechatronics, Numerical Optimization (Newton, Gradient-Based Methods), Engineering Mathematics, Computer-Aided Design (CAD), Computational Fluid Dynamics (CFD), Fluid Mechanics, Heat Transfer

SELECTED PROJECTS

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 data-driven design iterations, Conducted CFD simulations in STAR-CCM+ at 50 m/s to analyze pressure and drag distributions, Used simulation outputs to guide aerodynamic optimization, Produced a full-scale 3D-printed prototype and prepared CNC machining of the final body while ensuring compliance with 10+ technical regulations

Reducer Design Project – Arts et Métiers **2025**
- Designed a 7 kW industrial speed reducer with a reduction ratio of 4.5 and a target lifetime of 22,000+ h, Defined a full system architecture including one gear stage, two shafts, and lubrication circuit, Performed analytical modeling and pre-dimensioning of gears and shafts under load, Selected standard components based on mechanical constraints and operating conditions, Integrated lubrication volume (0.48 L) and thermal considerations into system design

Supervised Personal Research Project: Impact of Hitting Techniques on Ball Speed – Lycée Raspail 2021–2023
- Designed a custom pendulum-based impact test rig with interchangeable impactors to study impact dynamics, Conducted dozens of controlled experiments using video-based motion capture, Extracted velocities and contact times through Python-based data processing, Analyzed experimental data to build a physics-based interpretation of ball–impactor interactions, Demonstrated 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 involving logistics, measurements, and execution constraints on a major renovation project with **3,000+ tons of excavated soil**, Performed **on-site measurements, markings, and consistency checks** under real-world tolerances during a **9–10 month underground phase**, Assisted in coordinating tasks with subcontractors and adapting plans to field conditions, Gained hands-on exposure to **field data**, physical constraints, and safety requirements, highlighting the gap between theoretical planning and real-world execution

LEADERSHIP AND VOLUNTEERING

Volunteer Tutor – Middle and Preparatory 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+), Mechanical CAD (Fusion 360, 3DEXPERIENCE)
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