



## Mehdi Touhami Chahdi

Highly motivated and results-oriented Mechanical Engineering student at Duke University with a passion for combining engineering, technology, and entrepreneurship to develop innovative solutions to real-world challenges. Proven ability to lead and collaborate effectively in multidisciplinary teams, demonstrated through successful projects in robotics, predictive maintenance, and sustainable technology. Strong technical skills in CAD design, programming, and robotics, coupled with a commitment to mentoring and inspiring future engineers.

### Education



- Duke University, Durham, North Carolina
- Bachelor of Science in Mechanical Engineering
- Minor in Computer Science
- Certificate in Innovation and Entrepreneurship

### Skills

- **CAD Design:** Autodesk Fusion 360 (5+ years of experience)
- **Programming:** Python (APIs, Web Development)
- **Robotics:** Neo motors, Mechanical Systems, 3D Printing
- **Other:** Problem-Solving, Teamwork, Leadership, Communication, Time Management

### Interests

- Engineering Innovation
- STEM Education and Outreach
- Entrepreneurship and Technology

### Experience

- **Powertrain Engineer | Duke Motorsports Team | Durham, NC**
  - > Design and optimize key components of the vehicle's powertrain system, including engine tuning and drivetrain development.
  - > Collaborate with multidisciplinary teams to ensure compatibility across systems and troubleshoot technical challenges.
  - > Contribute directly to the team's success in competitions.
- **Intern | Accenture | Dubai, UAE**
  - > Implemented predictive maintenance technology using vibration sensors and neural networks for the Argentinian Genelba power plant.
  - > Analyzed sensor data, selected appropriate neural network models, and defined input/output parameters to optimize predictive models.
  - > Enhanced power plant operational reliability by predicting equipment downtimes and optimizing maintenance schedules.
- **Technical Team Member | Exclusive Networks ME | Dubai, UAE**
  - > Documented and analyzed use cases of deception technology to enhance threat mitigation strategies.
  - > Tested and evaluated deception technologies, contributing to the development of robust cybersecurity protocols.

### Projects

- **Solar-Powered Refrigerator for Low-Income Households | Duke University | Durham, NC**
  - > Designed and built a solar-powered refrigerator to improve food security for low-income households in Uganda.
  - > Utilized thermoelectric cooling, a fan, polyurethane insulation, and a vacuum layer to ensure sustainability and portability.
  - > Conducted research, evaluated components using Pugh matrices, and developed a high-fidelity prototype.
- **Predictive Maintenance System for Argentinian Power Plant | Accenture | Dubai, UAE**
  - > Developed and implemented predictive maintenance technology for the Genelba power plant.
  - > Designed predictive models based on real-time sensor data and selected appropriate neural network architectures.
  - > Delivered a comprehensive solution that enhanced the power plant's operational reliability.
- **Robotics Leadership - Team Zeta | FIRST Robotics Competition, Sevenoaks School**
  - > Led the design, construction, and management of a robotics team that qualified for the World Finals in its first year.
  - > Designed a two-stage climber and box arm mechanism powered by Neo motors.
  - > Managed a multicultural team and mentored team members in technical and leadership skills.
- **Tech Outreach Program | Tech Service at Sevenoaks**
  - > Co-founded a student-led outreach program to teach STEM skills to primary school students.
  - > Collaborated with 50 student teachers to impact over 200 students across 10+ schools.
  - > Developed and delivered courses in coding, CAD, and robotics.