Abdallah Benelmadjat

Fulbright Scholar | Energy Engineering Student
Portfolio: abdallah-benelmadjat.github.io/portfolio

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Energy & Electromechanical Engineer with M.S. & ongoing M.S. in Energy Engineering. Experience in solar PV, NDT, automation, & manufacturing. Proficient in Programming and 3D CAD software. Fulbright Grantee committed to advancing energy efficiency.

EDUCATION

M.S., Energy Engineering; Modern Energy Production and Sustainable Use — May 2024
Arizona State University, Tempe, Arizona — GPA: 3.89
Relevant Coursework: Wind Energy, Renewable Energy Tech & Systems, Reliability & Standards

M.S., Electromechanical Engineering; Industrial Maintenance Engineering — Sep 2021
Thesis Project: Classification of Gear Defects using Neural Networks (Deep/Machine learning) — GPA: 4.0
Univ. Science and Technology Houari Boumediene, Algeria
Relevant Coursework: Fracture mechanics & damages, Electrotechnology, Signal Processing, NDT, Automation, Programming

B.S.E., Mechanical Engineering; Mechanical Construction Engineering — Oct 2019
Univ. Science and Technology Houari Boumediene, Algeria — GPA: 3.5
Relevant Coursework: Material Resistance, Mechanical Construction, Mechanical Design, Fluid Mechanics, Thermodynamics

WORK EXPERIENCE

Research Assistant Volunteer: Photovoltaic Reliability Laboratory, Mesa, AZ — Jan 2023 – Present
- Planning and executing experiments to evaluate the performance and reliability of solar photovoltaic systems.
- Analyzing and reporting data to support ongoing efforts to improve the efficiency of solar energy technology.
- Contributing to ongoing research efforts to improve the efficiency and sustainability of solar energy technology.

NDT Laboratory Operator Intern: ERMAero Aeronautical Equipment Renovation, Algiers, Algeria — Nov 2021 – Dec 2021
- Performed UT/RT NDT tests on aircraft parts, ensuring industry-standard compliance and defect identification.
- Utilized advanced inspection devices to examine aircraft frames and identify defects/anomalies that require repair.
- Co-developed and implemented new inspection methods with engineering team to enhance testing efficiency.

Process Control and Automation Intern: Sonatrach Petroleum, In Amenas, Algeria — Dec 2019 – Jan 2020
- Assisted with the installation, configuration, and maintenance of automated control systems for power gas turbines.
- Troubleshot and supported control systems, collaborating with engineers and technicians to prevent downtime.
- Managed maintenance schedules and tracked activities using a Computerized Maintenance Management System.

Precision Manufacturing Intern: GRALCOME, Boumerdès, Algeria — Mar 2019 - Apr 2019
- Utilized SolidWorks and CNCs to design and produce high-quality machined parts from concept to completion.
- Conducted quality tests on finished products to ensure compliance with industry standards and specifications.
- Streamlined and improved inventory management processes, reducing waste and minimizing production delays.

ADDITIONAL EXPERIENCE

Robotics Teacher: Ecole Opiniâtre, Algiers, Algeria — Dec 2020 – Oct 2021
- Educated high school students on robotics and programming fundamental concepts and principles.
- Coordinated with other teachers and staff to integrate robotics/programming into other subject areas, such as math.

Vice President of ESC club: USTHB, Algiers, Algeria — Jan 2017 – July 2021
- Demonstrated strong leadership skills in multiple roles, including Vice President, team leader, and teacher within the ESC club, providing mentorship and guidance to fellow members, and driving key initiatives forward.

AWARDS

Fulbright Foreign Student Program Grantee for 2022: ECA, U.S. Dep of State, DC — Nov 2021 – Present
Selected as grantee for the Fulbright Foreign Student Program, a U.S. Dep of State scholarship which fully funds my studies:
- Achieved selection, outcompeting hundreds of applicants to secure one of only six nominations granted in Algeria.

TECHNICAL SKILLS
- **Data Analysis and Statistics:** MATLAB, Python, Excel
- **Design & Modeling Tools:** SolidWorks, Ansys
- **Geographic Information System:** ArcGIS, QGIS

LANGUAGES
- English: native proficiency, writing and speaking.
- French: advanced proficiency, writing and speaking.
- Arabic: advanced proficiency, writing and speaking.