

# Abdallah Benelmadjat

Fulbright Scholar | Energy Engineering Student  
Portfolio: [abdallah-benelmadjat.github.io/portfolio](https://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.
- Troubleshoot 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, Revit
- Renewable Energy Tools:** WindPRO, PVsyst, OpenWind

## LANGUAGES

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