

SAMA ALGURAB

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EDUCATION

King Fahd University of Petroleum and Minerals (KFUPM)

Bachelor of Science in Mechanical Engineering

Dhahran, Saudi Arabia

August 2022 - May 2027

Relevant courses: Mechanical Engineering Drawing and Graphics, Introduction to Mechanical Engineering Design, Statics and Strength of Materials, Thermodynamics I, Dynamics, and Electronics and Microcontrollers.

RESEARCH EXPERIENCE

Summer Research Internship | Young Scholar Fellowship

University of Manchester

Visiting Researcher

June – August 2025

- Researched PETG and PPS-CF composites for automotive applications through 3D printing trials at varied speeds.
- Performed mechanical testing and materials characterization (SEM, XRD, XCT) to evaluate structure–property relationships.

Tensile and Flexural Behavior of 3D-Printed Carbon Fiber Reinforced PLA Composites

KFUPM

Undergraduate Researcher

July 2024 – May 2025

- Designed the specimens for the 3D-printed carbon fiber reinforced PLA composites using CAD and 3D-printed them.
- Conducted mechanical testing (tensile, flexural, and hardness) of 3D-printed nanocomposites to evaluate performance.

Research on 3D-Printed Helmet Padding for Crash Absorption | ENGL214

KFUPM

Undergraduate Researcher

August – December 2024

- Analyzed previous data and simulations to evaluate potential improvements in helmet padding materials for crash absorption.

WORK EXPERIENCE

Mawhiba's Academic Enrichment Program

KFUPM

Academic Assistant

July - August 2023

Developed AI-focused learning materials on machine learning and optimization, guiding students in applying Python-based AI models.

Sobra Newspaper

Qatif, Saudi Arabia

Journalist

February 2020 - January 2022

Conducted interviews, covered diverse stories, and produced articles on local events, cultural topics, and community issues.

CERTIFICATES

Internet of Things Course | Mawhiba-Oxmedica Summer Program

Virtual

Selected Participant

July 2021

- Gained hands-on experience in IoT systems, integrating sensor technologies with real-time data processing using Python.
- Applied machine learning techniques for optimizing IoT applications, focusing on automation and efficiency.

Cybersecurity & Cryptography Course | Mawhiba-Oxmedica Summer Program

Virtual

Selected Participant

July 2020

- Developed secure coding expertise in Python and C++, implementing encryption techniques for data protection.
- Explored vulnerability assessment and AI-driven security protocols for modern computing systems.

EXTRACURRICULAR ACTIVITIES

Jeel Tamooh Program (7th Edition) | BCG (Boston Consulting Group)

Riyadh, Saudi Arabia

Selected Participant

March 2025 - Present

Represented student concerns and provided structured recommendations to the administration to improve academic and campus life.

Student Advisory Council (Complaints & Recommendations Committee)

KFUPM

Member

February 2025 - Present

Represented student concerns and provided structured recommendations to the administration to improve academic and campus life.

AWARDS

Third Place Winner - Introduction to Mechanical Engineering Design Competition

August - December 2024

Led a team to design, prototype, and build an innovative obstacle-navigating device leveraging hands-on manufacturing techniques.

SKILLS

Programming & AI: Python, MATLAB

Software & CAD: SolidWorks, Fusion, Abaqus, ANSYS, AutoCAD, UltiMaker Cura

Equipment & Testing: 3D-Printing, Tensile Testing, Flexural Testing, Hardness Testing, SEM

Language: Arabic: Native Proficiency, English: Advanced Proficiency