Amjad
Electrical & Electronic Engineering Student

Education:

Newcastle University – BSc Electrical & Electronic Engineering (2023–2027)
- Key modules: Algorithms & Data Structures, Embedded Systems, Control Systems, Digital Design, Data Analytics, Power Electronics.

A-Levels (2021–2023)
- A-levels in: Math's, Further Math's, Computer Science and Physics.
- Extended Project Qualification on the impact of state surveillance.

Experience:

Engineering Placement Student – Caterpillar Inc. (2025–2026)
- Currently developing interactive Power BI dashboards to integrate multiple data sources and reduce manual reporting.
- Using Python & SQL for data automation and downtime analysis.
- Collaborating with engineers and contractors on process improvements affecting 100+ operators.

Selected Projects:

VHDL Digital Design (2024–2025)
- Designed Half & Full Adders, and 4x4-bit multipliers (serial & parallel).
- Evaluated speed vs area trade-offs with simulation correctness.

Autonomous Buggy (2024–2025)
- Implemented PID control and PWM motor logic in C++.
- Completed 4 laps of magnetic track in 75s, fine-tuned PID for stability.

Python Maze Game (2022–2023)
- Procedural generation using Kruskal's algorithm.
- Applied graph theory & OOP principles for scalable difficulty.

Skills:

- Programming: Python, C++, VHDL/Verilog, SQL (basic), MATLAB/Simulink
- Tools: Git, Power BI, Embedded C, Control Systems Design
- Core Strengths: Problem-solving, Algorithms, Data Structures, Digital & Embedded Systems

Languages & Interests

- Languages: English (Fluent), Arabic (Fluent)
- Interests: Control Systems, AI, Computer Architecture, Jujitsu, Outdoor Exploration and History.