QAZI KHIZAR ALI

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EDUCATION

- **Bachelor of Mechanical Engineering, NUST, Karachi** | **CGPA** 3.3 **2022-2026**
- **HSSC, Bahria College Karsaz** | **Marks** 85% **2020-2022**

EXPERIENCES

Formula Electric Racing-NUST

Director Mechanical Department **July 2022 – Present**

- Participated in **FSUK 2023** competition in Silverstone circuit, Towcester, achieving an overall **22nd position** out of 66+ international teams
- Designed the battery pack for the team's sixth vehicle, achieving a 30kg weight reduction and the smallest container ever used by the team and reduced manufacturing cost by 30%.
- Researched cell designs and reduced the configuration, lowering the battery pack temperature and enhancing efficiency
- Researched and optimized flowrate calculations for the radiator, improving cooling efficiency for the motor and motor controller.
- Designed and Implemented **Battery Pack Temperature Monitoring** and **Control System**.
- Developed and implemented **in-house component manufacturing and reuse policy**, reducing production costs by **33%** and manufacturing lead times by **40%.**
- Formulated documents like **DCS, SES** for FSUK 2025 and **BOM, DBOM, EDR** for FSUK 2023 competition.
- Led sponsorship negotiations and closed deals with key industry partners including **Karachi Shipyard, MEK and Fiber Marine.**

Pakistan International Airlines:

Engineering and Maintenance Intern– PIA Internship Program **September 2024 – October 2024**

- Observed maintenance operations in the electronics workshop and engine overhaul shop.
- Developed understanding of **supply chain processes**, including **warehouse management** and **aircraft parts procurement**.
- Gained an overview of aircraft registration and **aviation risk management procedures**.
- Compiled a comprehensive internship report and presented key learnings in a formal panel interview.

PROJECTS

- Designed an **Energy storage system** on **Simulink** made of **Alu-Air Fuel Cell** to power cruise ships for **7 days** by using only **4 grams of Aluminum**.
- Designed **EV Bike Battery Pack** for **Wavetec** using **Lithium Polymer Cells** ensuring compliance with **IEC62133** and **IP67**.
- Designed and Manufactured Battery pack for FERN sixth electric Vehicle and reduced mass by **30 kg** by efficient design.

SKILLS

Software
- SolidWorks
- Microsoft Office
- Ansys
- MATLAB/Simulink

Technical
- Applied Research
- Computer Aided Design (CAD)
- Computational Fluid Dynamics

Interpersonal
- Analysis and Reporting
- Team Management
- Critical Thinking
- Negotiation

ACHIEVEMENT

NUST High Achievers Award 2023:

Represented Pakistan at Formula Student UK 2023, achieving Finalist position in Cost & Manufacturing event.