Muhammad Hamza Khalid

ID: 36302-3645721-7 | **Work permit:** Pakistani | **Nationality:** Pakistani | **Email address:** mhamzakhalid53@gmail.com | **Website:** https://humxah007.github.io/ | **LinkedIn:** www.linkedin.com/in/mhamzakhalid100 | **WhatsApp Messenger:** +923166696268 |

Address: Islamabad, Pakistan (Home)

ABOUT ME

Aerospace Engineering graduate with experience in CAD design, 3D modeling, structural analysis, and CFD. Skilled in CATIA, SolidWorks, ANSYS, MATLAB, and related tools. I want to turn complex ideas into simple, useful solutions and would like to use my skills to innovate and solve real-world problems in aerospace.

WORK EXPERIENCE

NAQCODE TECHNOLOGIES – ISLAMABAD, PAKISTAN

INTERN – 06/2024 – 08/2024

Worked on turbine and propeller design using BEMT, performed CFD analysis with ANSYS, XProp, XFoil, and QBlade, and strengthened both technical and soft skills in a fast-paced engineering environment.

EDUCATION AND TRAINING

10/2021 – CURRENT Islamabad, Pakistan

BSC IN AEROSPACE ENGINEERING Institute of Space Technology

Website https://ist.edu.pk/

SKILLS

CAD & Modeling

Catia | OpenVSP | Solidworks

Simulation & Analysis

Ansys | XFLR5 | QBlade | Star-ccm+ | Simulink | XFoil | QProp

Coding

Matlab | Python | CNC Coding

PROJECTS

2024 – 2025

Conversion Mechanism Design of a Manned Rotorcraft

For my final year project, I designed a hybrid rotorcraft that flies like a drone and converts into a bicycle after landing. I worked on 3D modeling, ergonomics, structural sizing, and structural integrity using CATIA, SolidWorks, and ANSYS. The design uses carbon fiber and aluminum 6061-T6 to stay lightweight and safe, aiming to improve urban mobility through a compact, dual-mode vehicle.

Link https://humxah007.github.io/_projects/hybrid-rotorcraft/pictures/simulation.mp4

2024

CFD Analysis of Supersonic and Fighter Aircraft

Performed CFD analysis to analyze shockwaves and airflow on the Concorde, F-16, and a generic bullet/wing.

2024

Aircraft Design

Design and optimization of a Medium Altitude Low Endurance (MALE) Unmanned Combat Aerial Vehicle (UCAV).

2023
Aircraft Performance Analysis

Conducted detailed performance analysis of the Cessna 172 Skyhawk, including calculations of lift, drag, endurance, range, maximum takeoff weight (MTOW), and Mach number under various flight conditions.

2023
Design And CFD Analysis of an F1 car.

CATIA-based modeling of a Formula-style race car and CFD simulation using Ansys fluent.

2023
Structural Analysis of Landing Gear in Flight

Conducted FEA on aircraft landing gear deployed mid-air, focusing on stress distribution and structural integrity.

2022
Twin Rotor Aerodynamic System (TRAS)

Rotor balancing, overshoot minimization & damping analysis

COURSES & CERTIFICATIONS

Engineering the Space Shuttle – MIT (Coursera)

Studied systems engineering and the CDIO approach through design and operational challenges.

Unmanned Aerial Systems – MIT (Coursera)

Learned UAS introduction fundamentals, components, and applications to careers in drone design and operation.

EXTRACURRICULAR ACTIVITIES

2025
Treasurer – IST Character Building Society

2022 – 2024
Geoguessr Competition Winner & Runner-up – IST Geospatial Society

2023
Director Procurement – AIAA IST Chapter

2021 – 2023
Director Planning – IST Space Society

2022
Team Athletics Lead – IST Sports Society

RECOMMENDATIONS

Dr. Muhammad Wasim Assistant Professor – Aerospace Engineering Department

Control Systems, Flight Dynamics & Control (FDC), GNAV, and FDS.

Email muhammad.007wasim@gmail.com

Dr. Muhammad Umer Sohail Assistant Professor – Aerospace Engineering Department

Aerodynamics, Fluid Mechanics, Compressible/Incompressible Flow, and CFD.

Email umer.sohail@ist.edu.pk