

MUHAMMAD OWAIS USMAN



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EDUCATION

ODTÜ - Orta Doğu Teknik Üniversitesi

B.S. Aerospace Engineering / 4th Year

Ankara, Türkiye

Sept 2021 – July 2025

- High honour student in 1st year
- Relevant Courses: **AEE 372**: Flight Mechanics, **AEE 486**: Spacecraft dynamics which included Attitude Estimation & Attitude Control and Orbital Mechanics, **AEE 383**: System Dynamics, **AEE 172**: Aircraft Performance, **AEE 341**: Aerodynamics I, **AEE 342**: Aerodynamics II, **AEE 262**: Dynamics, **ES 361**: Computing Methods in Engineering, **AEE 305**: Numerical Methods

PROFESSIONAL EXPERIENCE

ORDULU Technology (Enetki Savunma)

Ankara, Türkiye

Controls and Aerodynamics Candidate Engineer

Mar 2023 – Jan 2024

- Responsible for UAV Static and Dynamic stability using **XFLR 5** and **Flow 5**
- Worked in **System identification** by finding control derivatives and aerodynamic coefficients.
- Worked on UAV design and modelling.
- CFD Analysis using **ANSYS**.

TARU Mühendislik

Ankara, Türkiye

Engineering intern

Jan 2023 – Feb 2023

- I worked on designing an efficient fire safety and ventilation system for the HızRay Metro project in Istanbul. This included designing simulations in PyroSim for 3D smoke flow analysis and using the SES software for 1D flow analysis.

Preply Tutor

Ankara, Türkiye

Mathematics tutor

- Taught High school and freshmen college math to students in the USA and the UK

PROJECTS

GNC System Design for Multi-Agent Fixed Wing UAV units

Ankara, Türkiye

AEE 404 final project

Dec 2024 – Present

- Worked on the guidance and navigation algorithms
- Working on implementation of the controller with the navigation and guidance system to visualize finding the instantaneous states of the UAV

Non-linear 6 DOF UAV Dynamic model and controller

Ankara, Türkiye

Personal Project

Dec 2024 – Feb 2024

- Dynamic Model of the UAV made in MATLAB and implemented in Simulink
- Implemented the Aerodynamic model, Inertia model, Propulsion model, Earth model and the Servo model
- Used AIRBUS Joystick by Thrustmaster to control UAV in FlightGear visualization software

Teknofest International autonomous UAV Challenge

Ankara, Türkiye

Captain

Feb 2021 – Aug 2021

- Captain of Team Amarok, responsible for designing and building an autonomous fixed wing UAV using tools like XFLR5, Raymer's textbook and SolidWorks

METURONE Aerodynamics Lead

Ankara, Türkiye

METURONE Aerodynamics lead

Sep 2021 – Aug 2023

- Responsible for designing and building an autonomous fixed wing UAV including analysis in XFLR5 and ANSYS

SKILLS & INTERESTS

MATLAB, Simulink, XFLR5, C++, Python, SolidWorks, CATIA, NX Siemens, ANSYS, Microsoft Office

Languages

English (native/bilingual)

Urdu (native)

Hindi (fluent)

Turkish (B1 level)

Arabic (elementary)