

Ali Mohaghegh

GENERAL INFORMATION

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Phone: +1 785 320 81 66
Place of Residence: Lawrence, KS

EDUCATION

University of Kansas Jan 2023 – Present
▪ **Ph.D.** in Aerospace Engineering
• Cumulative GPA: 4.0 / 4.00

Middle East Technical University Feb 2017 – Jul 2021
▪ **B.Sc.** in Aerospace Engineering
• Graduated as the **second-ranking-student** in the department
• Cumulative GPA: 3.5 / 4.00

Meshkat High School Sep 2012 – Jun 2015
▪ Mathematics and Physics
• Cumulative GPA: 19.36 / 20

EXPERIENCE

University of Kansas Jan 2023 – Present
Graduate Research Assistant
▪ Developing Data-Driven and Reduced-Order Models (ROM) for complex fluid physics used in aerospace propulsion applications.
▪ Exploring high-quality ROMs to enable efficient and accurate predictions of flow physics in complex engineering systems in collaboration with the Air Force-funded Center of Excellence (CoE) on Multi-Fidelity Modeling of Rocket Combustion Dynamics.

BAYKAR (Bayraktar) Defence Feb 2022 – Jan 2023
Aerospace Engineer
▪ Performing general performance analysis of UAV and unmanned fighter jets.
▪ Conceptual and Detail design of world's first unmanned jet fighter Bayraktar Kizilelma.
▪ Development of aircraft performance analysis methods and software.
▪ Preparation of Bayraktar Kizilelma aircraft performance documents.

AEROSAV May 2021 – Dec 2021
Long-Term Internship
▪ Functioning as performance analysis engineer and turbo-machinery components designer of a mini gas turbine engine.

Middle East Technical University Sep 2020 – Jul 2021
Academic Assistantship (Part-Time Paid Employment)
▪ Carrying out laboratory experiments, recitation hours, assisting students with class exercises and term projects, and grading quizzes, assignments and proctoring exams.

AIAA Gas Turbine Engine Design Competition Sep 2020 – Aug 2021
Technical Project
▪ Awarded as second best proposed gas turbine engine design in the world to be used on Concorde aircraft.

ATA Airlines Maintenance Center Jun 2020 – Sep 2020
Technical Internship
▪ Has worked as Trainee at NDT (Non-Destructive Test) Facility and Wheel and Brake Shop. Observed heavy and periodic checks on MD 80 series, Boeing 737 and Airbus 320 aircraft.

EUROAVIA Sep 2018 – Jul 2021
Leadership
▪ Has worked as board member and the head of audit committee at Aerospace Student Association which is EUROAVIA's student branch at METU campus. Also, Has Organized "Aero-Days" Seminar Series at University.

- SKILLS & TECHNOLOGY**
- **Programming:** C/C++, Python, MATLAB, LaTeX
 - **Applications:** ANSYS/Fluent, GasTurb, AxStream, CFturbo, Autodesk Inventor, CATIA, OpenFoam, MSC Apex, AutoCAD Mechanical, SU2, Gmsh
- AWARDS & SCHOLARSHIPS**
- Awarded as **second best proposed engine design in the world** at AIAA 2021 engine design competition
 - Awarded 75% tuition waiver at undergraduate studies
 - Chosen as **High Honor Student (5 times)** at Middle East Technical University
 - Selected as the best peer guide of “First Year Student on Campus” program
 - Chosen as top ethical and pedagogical student at high school at 2014
- LANGUAGES**
- **Persian:** Native Language
 - **Azerbaijani:** Native Language
 - **English:** Fluent
 - **Turkish:** Advanced
- PROJECTS**
- Aircraft Design**
- A group project in which a subsonic 50 passenger aircraft with range of flying Paris to New York non-stop was designed in the scope of Aeronautical Engineering Design course. I was responsible for weight estimation, CAD drawing, engine selection, thrust-to weight and wing loading estimations, airfoil selection, wing geometry, mission profile, high lift devices, conceptual design dimensions, internal components arrangement, tail arrangement and performance analysis along with 4 other group members.
- NASA X-33**
- In the scope of Hypersonic Flow course, NASA X-33 re-entry vehicle is considered. It’s re-entry to the mars atmosphere is analyzed and fluid properties on different points of vehicle is calculated using advanced numerical methods.
- Computational Aerodynamics**
- In the scope of Computational Aerodynamics course, following mini projects were done. Each project was consist of coding, stability and mesh analysis: Application of CFD on Boeing 787 dreamliner, Panel Method on NACA 4-digit airfoil, implicit and explicit heat equations, Laplace equation, Wave Equation, Lax-Wendorff Method, McCormack method.
- Helicopter Design**
- In the scope of Helicopter Aerodynamics and Design course, a helicopter with the the concept of a “Personal Aerial Vehicle” (PAV), which represents an affordable rotorcraft that would allow cheap, fast and customized transportation throughout big cities is designed.
- Advance Numerical Methods**
- In the scope of Application of Numerical Methods at Aerospace Industry course, number of problems which include Ordinary Differential Equation and Partial Differential Equation are solved using the codes that are developed in MATLAB. These problems included first order and high order ODEs, Systems of ODEs, elliptic, parabolic and hyperbolic PDEs.
- MEMBERSHIP**
- Member of AIAA (American Institute of Aeronautics and Astronautics) 2018 – present
 - Member of EURAVIA (European Association of Aerospace) 2019 – present
 - Member of METU NCC Aerospace Students Club 2018 – 2021
 - Member of METU NCC Community Volunteer Club 2019 – 2021
- REFERENCES**
- References can be provided upon request.

[Curriculum vitae compiled on Feb 2023]