Behrad Mansouri

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Personal Profile

I am a postgraduate from the M.Sc. Advanced Mechanical Engineering programme at the University of Liverpool, having graduated with Distinction in January 2025. Through the various hands-on academic and coursework projects that I have completed, I have become proficient in project-based problem solving methods and machine learning tools and techniques. I aim to leverage my knowledge and skills in a graduate role and contribute to solving the engineering challenges of today.

Education

University of Liverpool January 2024 - January 2025
M.Sc. (Dist) in Advanced Mechanical Engineering

Amirkabir University of Technology September 2019 - August 2023
B.Sc. (Hons) in Mechanical Engineering (2:1)

Allameh Tabatabaei High School
Diploma in Mathematics & Physics

Work Experience

Teaching Assistant - Thermodynamics (I) September 2021 - January 2022
Held weekly tutorials for students & marked student coursework. Dr. Moradi, Amirkabir University of Technology

Technical Skills

Programming: Python (NumPy, Jupyter, Matplotlib), Bash scripting, Git, Slurm **Markup Languages:** Markdown, LaTeX
Machine Learning: TensorFlow, Keras
Engineering Software: EES, MSC Adams, CATIA

Notable Coursework And Research Projects

Structural Integrity May 2024
- Structural integrity analysis of a simplified aerospace component using the R6 Defect Assessment Procedure

Energy and the Environment April 2024
- Preliminary design of a net-zero carbon emission energy mix to support a population of 5 million
- Numerical assessment of the performance of a hypothetical energy system during two different weather conditions

Heat Transfer July 2022
- Heat transfer analysis of a falling hollow sphere
- Generalized solution for transient heat conduction with variable conductivity

Fuels & Combustion June 2022
- Preliminary design of a gas turbine combustor using EES

Machine Learning
- Neural networks to calibrate biokinetic models for anaerobic digestion August 2024
- Grouping household gas usage via Artificial Intelligence July 2023
- Kaggle Dogs vs. Cats classification with a convolutional neural network August 2022

Achievements And Awards

- Earned the distinction of being one of only two students in my cohort to graduate from the Amirkabir University's Mechanical Engineering B.Sc. programme in 4 years. 2023
- Ranked in the top 0.1% of over 80,000 applicants in the national graduate entrance exam of 2023 in Mechanical Engineering. 2023
- Ranked in the top 0.4% of over 160,000 applicants in the national undergraduate entrance exam of 2019 in Mathematics & Physics. 2019
- Admitted in the First stage Nation-wide Mathematics contest of "Olympiad". 2017

References

References available upon request