# Behrad Mansouri

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## Personal Profile

I am a postgraduate student in the M.Sc. Advanced Mechanical Engineering programme at the University of Liverpool, on track to graduate 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**, Liverpool, United Kingdom                                           January 2024 - ongoing
**M.Sc.** in Advanced Mechanical Engineering (on track to graduate with Distinction in January 2025)

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

**Allameh Tabatabaei High School**, Tehran, Iran
Diploma in Mathematics & Physics

## Work Experience

**Teaching Assistant**                                                                                              September 2021
Teaching Assistant for Thermodynamics under Dr. Hashem Moradi at the 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          2023
  of Technology Mechanical Engineering B.Sc. programme in 4 years.

- Ranked in the top 0.1% of over 80,000 applicants in the Iranian national graduate entrance exam of 2023 in          2023
  Mechanical Engineering.

- Ranked in the top 0.4% of over 160,000 applicants in the Iranian national undergraduate entrance exam of 2019 in          2019
  Mathematics & Physics.

- Admitted in the First stage Nation-wide Mathematics contest of "Olympiad".                                       2017

## References

*References available upon request*