Behrad Mansouri

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Personal Profile

Mechanical Engineering M.Sc. graduate from the University of Liverpool, graduated with Distinction and the Top Student Attainment Award for outstanding academic performance. Experienced in CAD, FEA, computational modeling, and machine learning. Seeking to contribute to doctoral research projects that align with my strengths.

Education

University of Liverpool — Liverpool, United Kingdom
Master of Science (Engineering) in Advanced Mechanical Engineering — January 2024 – July 2025
Project Title: Neural Networks to Calibrate Biokinetic Models for Anaerobic Digestion ↗ ↗
Project Supervisor: Dr. Davide Dapelo, Project Assessor: Dr. Ming Li
- GPA: **3.97**/4
- Graduated with **Distinction** (year average of **81.3%**)
- Graduated **top of class**; awarded the university's **Top Student Attainment Award** in recognition

Amirkabir University of Technology — Tehran, Iran
Bachelor of Science in Mechanical Engineering — September 2019 – August 2023
Project Title: Grouping Household Gas Usage via Artificial Intelligence ↗
Project Supervisors: Dr. Nader Montazerin & Dr. Ghasem Akbari, Project Assessor: Dr. Ali Ahmadpour
- GPA: **3.3**/4
- Graduated with **Upper Second Class Honours (2:1)**
- Graduated **fastest in cohort**; one of only two students to complete B.Sc. in ME in four years

Allameh Tabatabaei High School — Tehran, Iran
Diploma in Mathematics & Physics — September 2016 – June 2019
- GPA: **19.32**/20

Teaching Experience

Teaching Assistant — September 2021 – January 2022
Thermodynamics — Held weekly tutorial sessions and marked student coursework — Amirkabir University of Technology

Certifications

Computer-Aided Design
- Certified SOLIDWORKS Surfacing Professional (CSWPA-SU) ↗ ↗ — Dassault Systèmes, July 2025
- Certified SOLIDWORKS CAD Design Professional (CSWP) ↗ ↗ — Dassault Systèmes, June 2025
- Certified SOLIDWORKS CAD Design Associate (CSWA) ↗ ↗ — Dassault Systèmes, April 2025

Technical Skills

CAD: SOLIDWORKS, SOLIDWORKS Surfacing, CATIA
FEA: ANSYS Mechanical, SOLIDWORKS Simulation
Programming: Python (NumPy, Jupyter, Matplotlib), Bash Scripting, Git, Slurm
Modeling & Simulation: MATLAB, EES, MSC Adams
Markup Languages: Markdown, LaTeX
Machine Learning: TensorFlow, Keras

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 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

- Received the **Attainment Award: Top Student** ↗ ↗ from the University of Liverpool for achieving the highest year average of **81.3%** in the AMEW program (2025)
- Earned the distinction of being one of only two students in the 2019 – 2023 cohort to graduate from the Amirkabir University's Mechanical Engineering B.Sc. program within four 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 to the first stage of the national Mathematics Olympiad (2017)

References

Dr. Davide Dapelo — Lecturer
Faculty of Science and Engineering, University of Liverpool
✉ D.Dapelo@liverpool.ac.uk
GitLab profile | Faculty profile

Dr. Ming Li — Senior Lecturer
Faculty of Science and Engineering, University of Liverpool
✉ M.Li@liverpool.ac.uk
Faculty profile

Dr. Nader Montazerin — Professor
Department of Mechanical Engineering, Amirkabir University of Technology
✉ mntzrn@aut.ac.ir
Faculty profile