

# Behrad Mansouri

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## EDUCATION

**University of Liverpool**, Liverpool, United Kingdom

January 2024 - ongoing

**M.Sc.** in Advanced Mechanical Engineering

GPA: **3.92/4**

Academic Advisor: Dr. Paolo Paoletti

Project Title: Neural networks to calibrate biokinetic models for anaerobic digestion 🐦 📺 📺

Project Supervisor: Dr. Davide Dapelo, Project Assessor: Dr. Ming Li

**Amirkabir University of Technology** (Tehran Polytechnic), Tehran, Iran

September 2019 - August 2023

**B.Sc.** in Mechanical Engineering

GPA: **3.14/4**

Academic Advisor: Dr. Mohsen Bahrami

Project Title: Grouping household gas usage via Artificial Intelligence 🌐

Project Supervisors: Dr. Nader Montazerin & Dr. Ghasem Akbari, Project Assessor: Dr. Ali Ahmadpour

**Allameh Tabatabaei High School**, Tehran, Iran

September 2016 - June 2019

Diploma in Mathematics & Physics

GPA: **19.32/20**

## GRE General Test Score

September 2022

Verbal Reasoning: 158

Quantitative Reasoning: 168

## TECHNICAL SKILLS

**Python:** Numpy, Jupyter, Matplotlib

**ML/AI:** TensorFlow, Keras

**Engineering Software:** EES, MSC Adams, CATIA

**Misc:** Bash scripting, Git, Slurm

**Markup:** Markdown, L<sup>A</sup>T<sub>E</sub>X

## LANGUAGE SKILLS

**Persian:** Native

**English:** IELTS 8/9

**Band scores:** Speaking 7.5, Listening 9, Reading 8.5, Writing 7

## TEACHING EXPERIENCE

**Thermodynamics (I)**

Fall 2021

Teaching Assistant

Instructor: Dr. Hashem Moradi

## NOTABLE COURSEWORK PROJECTS

**Structural Integrity**

Spring 2024

Instructor: Dr. William Christian

- Structural integrity analysis of a simplified aerospace component 📺

**Energy and the Environment**

Spring 2024

Instructor: Professor Karl Whittle

- Preliminary design of a net-zero carbon emitting energy mix to support a population of 5 million 📺 📺
- Numerical assessment of a hypothetical energy system's performance during two different weather conditions 📺

**Fuels & Combustion**

Spring 2022

Instructor: Dr. Ehsan Amani

- Preliminary design of a gas turbine combustor using EES 🌐

**Heat Transfer (I)**

Spring 2022

Instructor: Dr. Behzad Baghapour

- Heat transfer analysis of a falling hollow sphere 🌐
- Generalized solution for variable conductivity transient conduction 🌐

**Machine Learning**

Instructor: Dr. Davide Dapelo

Summer 2024

- Neural networks to calibrate biokinetic models for anaerobic digestion 🐦 📺 📺

Instructors: Dr. Nader Montazerin & Dr. Ghasem Akbari

Spring 2023

- Grouping household gas usage via Artificial Intelligence 🌐

Instructor: Dr. Behzad Baghapour

Summer 2022

- Kaggle Dogs vs. Cats classification with a convolutional neural network 🌐

## ACHIEVEMENTS AND AWARDS

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Admitted in the First stage Nation-wide Mathematics contest of “Olympiad”.	2017
Ranked in the top 99.6% of all applicants in the Iranian national undergraduate entrance exam of 2019 in Mathematics & Physics (658 <sup>th</sup> out of Approximately 160,000 participants).	2019
Ranked in the top 99.9% of all applicants in the Iranian national graduate entrance exam of 2023 in Mechanical Engineering (126 <sup>th</sup> out of Approximately 85,000 participants).	2023
Achieved the distinction of being one of the only two students in my year to successfully graduate from the AUT ME B.Sc. program in 4 years.	2023

## NOTABLE COURSES

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ENGG409 Structural Integrity: *90%*, MATS515 Smart Materials: *89%*  
Thermodynamics (I): *A+*, Thermodynamics (II): *A*, Fuels & Combustion: *A*  
Fluid Mechanics (I): *A*, Heat Transfer (I): *A+*

## REFERENCES

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<b>Dr. William Christian - Senior Lecturer</b> Faculty of Science and Engineering, University of Liverpool	Email, Faculty profile
<b>Dr. Davide Dapelo - Lecturer</b> Faculty of Science and Engineering, University of Liverpool	Email, Faculty profile GitLab profile
<b>Dr. Mohsen Bahrami - Professor</b> Department of Mechanical Engineering, Amirkabir University of Technology	Email, Faculty profile
<b>Dr. Nader Montazerin - Professor</b> Department of Mechanical Engineering, Amirkabir University of Technology	Email, Faculty profile
<b>Dr. Ghasem Akbari - Assistant Professor</b> Department of Mechanical Engineering, Qazvin Islamic Azad University	Email, Faculty profile
<b>Dr. Behzad Baghapour - Assistant Professor</b> Department of Mechanical Engineering, Amirkabir University of Technology	Email, Faculty profile
<b>Dr. Hashem Moradi - Assistant Professor</b> Department of Engineering, Persian Gulf University	Email, Faculty profile

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