Saba **Mansour**

Unit 109, No. 6, Tootoonchi St., Aref Nasab St., Valiasr Blvd., Tehran, Iran
saba.mansour@ut.ac.ir | Saba Mansour | (+98) 912 419 0894

Education

University of Tehran
M.Sc. in Mechanical Engineering, Energy Conversion
Tehran, Iran
Sep. 2020- Expected Jul. 2022
- GPA: 18.69/20.00 (4.00/4.00)

University of Tehran
B.Sc. in Mechanical Engineering
Tehran, Iran
Sep. 2016- Sep. 2020
- GPA: 18.02/20.00 (3.79/4.00), Final 2-year GPA: 19.04/20.00 (4.00/4.00)

Research Interests

- Computational Fluid Dynamics
- Optimization of Thermal-Fluid Systems
- Numerical Methods
- Transport Phenomena in Biological Systems
- Turbulent and Multiphase Flows
- Micro- to Macro- Scale Thermal Management Systems

Research Experiences

(All done at the School of Mechanical Engineering, University of Tehran, Tehran, Iran)

Modeling and optimization of an environmentally-benign battery thermal management system for the battery pack in an electric vehicle (EV); (M.Sc. Thesis)
Multiphase Flow, Heat Transfer and Fluid Mechanics Research Lab
Jan. 2021- Present

Performance optimization through designing a novel real-time decision-making power split strategy for a plug-in hybrid electric vehicle (PHEV) using deep learning under real-world driving conditions
Advanced Sustainable Energy Systems Lab
Jan. 2021- Present

Evaluating the impact of drive cycle aggressiveness and environmental factors on power demand and different charging strategies on the lifetime of Hybrid Electric Vehicles (HEVs); (B.Sc. Thesis)
Advanced Sustainable Energy Systems Lab
Sep. 2019- Sep. 2020

Selected Course Projects

(All done at the School of Mechanical Engineering, University of Tehran, Tehran, Iran)

Implementing the direct (LU decomposition) method and Krylov subspace (generalized minimal residual) method for solving a large system of equations in C++

Implementation of multigrid methods for solving Laplace's and Poisson's equations in C++

Solving the two-dimensional convection problem on unstructured triangular meshes using C++

Computational Fluid Dynamics II
Sep. 2021- Jan. 2022

Investigating numerical methods and accuracy in Reynolds Averaged Navier Stoke's equations modeling

Examination of the performance of Large Eddy Simulation models using Direct Numerical Simulation data

Turbulence
Sep. 2021- Jan. 2022

Solving the two-dimensional incompressible laminar Navier-Stokes equations for a lid-driven cavity flow using C++
Computational Fluid Dynamics I
Jan. 2021- Jun. 2021

Flow simulation over an asymmetric Jakowski airfoil using ANSYS Fluent and MATLAB software
Advanced Fluid Mechanics
Sep. 2020- Jan. 2021

Designing a building HVAC system capable of maintaining the room temperature and humidity within the standards of human comfort by utilizing renewable energies
Renewable Energies
Jan. 2020- Jun. 2020

Honors & Awards

Full Scholarship, M.S. Program, Exceptional Talents
School of Mechanical Engineering, University of Tehran
Tehran, Iran
Sep. 2020

Ranked among top 10 of approximately 140 students of the same entry (Named to the Dean's list)
School of Mechanical Engineering, University of Tehran
Tehran, Iran
Sep. 2020

Full Scholarship, B.S. Program, Iranian University Entrance Exam
School of Mechanical Engineering, University of Tehran
Tehran, Iran
Sep. 2016

Ranked among the top 0.25% of 164,000+ participants
Iranian National University Entrance Exam (Konkur)- Mathematics and Physics
Tehran, Iran
Jul. 2016

Certificate of Distinction in Australian Mathematics Competition
Placed in the top 8% of several hundreds of thousands of participants
Tehran, Iran
Sep. 2015

Selected Courses

Graduate Level
- Computational Fluid Dynamics I (20.00/20)
- Advanced Fluid Mechanics (18.00/20)

Undergraduate Level
- Optimization of Mechanical Systems (19.02/20)
- Heat Transfer II (18.75/20)

Teaching Experiences

(All done at the School of Mechanical Engineering, University of Tehran)
Tehran, Iran

Advanced Fluid Mechanics *Sep. 2021- Present*
Fluid Mechanics II *Sep. 2021- Present*
Heat Transfer I *Sep. 2020- Jan. 2021*
Thermodynamics I *Jan. 2020- Jun. 2020*
Thermodynamics II *Sep. 2019- Jan. 2020*

Working Experiences

Intern at Advanced Sustainable Energy Systems Laboratory
School of Mechanical Engineering, University of Tehran
Tehran, Iran
Jun. 2020- Sep. 2020
- Collected data on conventional, electric, and hybrid electric vehicles
- Compared alternative vehicles from an economic and environmental point of view

Intern at Sarma Afarin Company
Tehran, Iran
Jun. 2019- Sep. 2019
- Collected and categorized data of available models of fan coil produced by the company
- Developed an algorithm to suggest the best size and type of fan coil based on costumer's need

Publications

Saba Mansour, Mehrdad Raeesi, Sina Changizian, Pouria Ahmadi, "Performance optimization through designing a novel real-time decision-making power split strategy for a plug-in hybrid electric vehicle using deep learning under real-world urban driving conditions," Journal of Power Sources *(to be submitted)*
Tehran, Iran
Jan. 2021- Present

Technical Skills

Computational Fluid Dynamics	ANSYS Workbench, COMSOL Multiphysics
Programming Languages	MATLAB, Python, C/C++
Computer-Aided Design	Solidworks, CATIA
Operating Systems	Windows, macOS, Ubuntu

Languages

English (Professional Working Proficiency)

- IELTS Academic Test: Holding an Overall Band Score of **7.5** *Aug. 2020*
- GRE General Test: **Quantitative Reasoning: 170**, Total GRE score: 318 *Nov. 2021*

Persian/Farsi (Native)

References

Prof. A. Jalali
Assistant Professor of Mechanical Engineering, University of Tehran, Tehran, Iran
Email: arjalali@ut.ac.ir
PhD: University of British Columbia

Prof. P. Ahmadi
Assistant Professor of Mechanical Engineering, University of Tehran, Tehran, Iran
Email: pahmadi@ut.ac.ir
Postdoc : University of Illinois at Urbana-Champaign