Mohammad Homanloo

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LinkedIn: https://www.linkedin.com/in/homanloo
GitHub: https://github.com/Homanloo
Website: https://homanloo.github.io

Education

Sharif University of Technology, Tehran, Iran Since 2019
Bachelor of Science, Chemical Engineering
GPA: 15.94/20 • 3.36/4.0

Shahid Shiroudi High School, Alborz, Iran (Accepted by entrance exam) 2016 - 2019
Diploma, Mathematics
GPA: 19.31/20 • 4/4 (Top 3 among 60 students)

Research Interests

Numerical Analysis • Mathematical Modeling • Simulation and Control of Chemical Processes • Thermodynamics and Phase Equilibrium • Machine Learning • Data Analysis • Data Visualization • Full-Stack Development • Process Systems

Courses and Certificates

Supervised Machine Learning: Regression and Classification June 2023
Stanford University
Delivered at Coursera

Unsupervised Learning, Recommenders, Reinforcement Learning August 2023
Stanford University
Delivered at Coursera

Advanced Learning Algorithms August 2023
Stanford University
Delivered at Coursera

Task-Oriented Course in Data Analysis with Python April 2023
Delivered at Quera

Introduction to Programming with MATLAB December 2021
Vanderbilt University
Delivered at Coursera

Excel Software (Basic & Advanced) October 2021
Kimia student-scientific group, Sharif University of Technology

Python Level-Up: Implementing Telegram bots with Python June 2023
Delivered at Quera

Selected Projects

- Developing a Web Application for Phase Equilibrium Calculations of Multicomponent Mixtures
- Simulation and Control of 2 Connected Chemical Reactors with MATLAB and Simulink
- Numerical Analysis and Simulation of the Cooling Process in Turbines with MATLAB
- Simulation of Diffusive Mass Transfer of Water with COMSOL
- Design of Demethanizer and Deethanizer Columns for LNG Production with Aspen HYSYS
- Studying the Effect of Operating Parameters in Nickel Removal Process from Absorber with COMSOL
- Hydraulic and Mechanical Design of a Distillation Column with MS Excel
- Thermal and Mechanical Design of a Shell and Tube Heat Exchanger with MS Excel
- Data Analysis and Visualization of House Sales in Beijing with Python
- Data Preparation and Analysis of the Exported Commodities of a Company with Python
- Chess Game Development with Python using OOP
- Numerous Numerical Analysis Mini Projects with MATLAB, Python, and MAPLE
- Simple Image and Voice Processing with MATLAB
- Simple Encoding-Decoding Application with Python
- In-Time Weather and Time Telegram bot with Python

Selected Skills

Python • Pandas • NumPy • Matplotlib • Django • TensorFlow • Full-Stack Development • MATLAB • Machine Learning (Supervised and Unsupervised) • Neural Networks • Data Analysis • Data Preparation • Data Visualization • COMSOL • Aspen HYSYS • MAPLE • AutoCAD • MS Excel

Selected Courses at University

Engineering Mathematics (83/100) • Industrial Unit Operation I (93/100) • Industrial Unit Operation II (93/100) • Chemical Processes Control (82/100) • Mass and Heat Exchanger Design (90/100) • Physical Chemistry (80/100) • Fundamentals of Computer Programming (83/100) • Fluid Mechanics II (75/100) • Thermodynamics II (78/100) • Mass and Energy Balance (79/100) • Math I (80/100)

Honors and Contributions

- Top 1% (among 120,000 participants) in nation-wide entrance exam of Iranian National Universities, 2019.
- Member at Chemical and Petroleum Engineering Department Publication (In Department), 2021

Language

TOEFL iBT   5th August, 2023
Score: **112/120**
Reading: 30 • Listening: 29 • Speaking: 27 • Writing: 26