Korosh Agha Mohammad Ghasemi | Curriculum Vitae

University of Shiraz–Chemical Engineering

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RESEARCH INTERESTS

- AI Programming
- Machine Learning(ML)
- Process Control

EDUCATION

- **Bachelor of Science** [2019 – Present]
  Shiraz University *Shiraz-Iran*
  - Chemical Engineering
    - **GPA: 3.94/4 (Present)**
- **High School** [2016 – 2019]
  Shahid Motahari High School *Bushehr-Iran*
    - **GPA: 4/4**

HONORS

- Rank **10 Percent First** Chemical Engineering, Shiraz University, Shiraz, Iran.
- Ranked **1000st** in university entrance exam, among more than 200,000 participant [Summer 2019].
- Granted admission from Talented Student Office of Shiraz University for graduate study.
- Top participant in the **Rahneshan** match of the Iran's National Elites Foundation [2021]
- Member of the Scientific Association of **Energy and Environment** of Shiraz University[2021]

WORK EXPERIENCES

- FoumanChimie Company
  - **Data Analyst**
    - Machine Learning Frameworks:
      SciPy, Scikit-learn, Pandas, NumPy, Matplotlib, TensorFlow, Keras, Kafka, Spark, PySpark, Kubeflow, TFX
- Kheilisabz Company
  - **Book Editor**
    - Chemistry Test Book
- Ghalamchi Company
  - Teaching Assistant
  - Provide of educational and emotional support for High school Students

LANGUAGE SKILLS

- Persian Native
- English Fluent
  - **IELTS will be taken in near future.**

PROJECTS

- **Polymer Flooding** - Shiraz University (Group Project) [Feb 2020 - Jan 2021]
  - Enhanced oil recovery (EOR)
    - Data analysis with Python and MATLAB(Building on the comprehensive, fundamental mechanisms and mathematical computations detailed , the Enhanced Oil Recovery presents the latest insights into the applications of EOR processes)
    - Simulations of Enhanced Oil Recovery Processes
    - Review the method and the negative and positive points
    - Instructor: Dr. Shadi Hassanajili

- **Antifreeze** - FoumanChimie Company (Team Project) [Jan 2021 - Present]
  - Using Support Vector Machine and Evolutionary Profiles to Predict Antifreeze Protein Sequences
    - Antifreeze proteins (AFPs) are ice-binding proteins. Accurate identification of new AFPs is important in understanding ice-protein interactions and creating novel ice-binding domains in other proteins. In this paper, an accurate method, called AFP PSSM, has been developed for predicting antifreeze proteins using a support vector machine (SVM) and position specific scoring matrix (PSSM) profiles.
    - Research and design of model learning machine and artificial intelligence with Python
    - Instructor: Dr.Amir Golroo

- **Fault Diagnosis Method for Chemical Process** - Shiraz University (Group Project) [Present]
  - GESTCO's Research Assist
    - With the rapid expanding of big data in all domains, data-driven and deep learning-based fault diagnosis methods in chemical industry have become a major research topic in recent years. In addition to a deep neural network, deep forest also provides a new idea for deep representation learning and overcomes the shortcomings of a deep neural network such as strong parameterdependence and large training cost.
    - Instructor: Prof. Reza Eslamloueyan

INTERNSHIP

- **Peyman Sanat Sapra Company** [Present]
  - Phase 1 and 2 ENI / NICO
    - Drilling of 3 wells and 5 wells and one well gas injection well The creation of a unit of operation with a nominal capacity of 55 thousand barrels per day All pipelines and pipelines in the first phase of the project Drilling 15 development loops, 3 gas injection wells and one wells water disposal Zayed, along with the creation of a unit of operation with a nominal capacity of 165 thousand barrels of oil On the day, including all lines of flow and well-developed facilities in the second phase
      – Feasibility Study Phase III was conducted by ENI
      – Define the descriptive stage of the design and preparation of documents for this part of the work using internal resources
    - Phase 1: Handling 50,000 barrels of oil and injected 70 million cubic feet of gas a day
    - Phase 2: Achieve 110,000 barrels of oil and inject 210 million cubic feet of gas a day
    - Instructor: Mohammad Hossein Zarif Karfard

COURSES

- MATLAB Programming - Grade:A $^{++}$ [2020]
  - Instructor: Dr.Fatemeh Hejazi
- Fluid Mechanics - Grade:A $^{++}$ [2021]
  - Instructor: Dr.Shadi Hassanajili
- Engineering Mathematics - Grade:A $^{+}$ [2021]
  - Instructor: Dr.Mohammad Khorram
- Thermodynamics 1&2 - Grade:A $^{+}$ [2021]
  - Instructor: Dr.Alireza Shariati
- Mass Transfer - Grade:A $^{+}$ [2022]
  - Instructor: Dr.Payman Keshavarz
- Industrial Drawing - Grade:A $^{++}$ [2022]
  - Instructor: Dr.Hamed Peyrovedin
- Physics Laboratory 1&2 - Grade:A $^{++}$ [2022]
  - Instructor: Dr.Marzieh SedaghatNejad
- Chemistry Laboratory 1 - Grade:A^{++} [2022]
  - Instructor: Dr.Leila Sakhtmanian

Online Courses

- Basic Python Programming
- Python 3.6 for Total Beginners
- Learn Python,Basic to Advance
- Python 3 Master Course for 2021
- Einstieg in Excel-Dashboards
- COMSOL Multiphysics
- MATLAB Basics
- MATLAB/SIMULINK
- Machine Learning
- Git and GitHub
- Visual Studio Code
- AutoCAD

COMPUTER SKILLS

- Python
- MATLAB
- Microsoft Office
- Visual Studio Code
- Aspen HYSYS
- HTML
- JavaScript
- C/C++
- AutoCAD
- LaTeX

TEACHING EXPERIENCES

- **Teaching Assistant**
  - Advanced Programming [Aug 2021]
    - Leading and supervising students in Course Material,Exams (MATLAB)
    - Instructor: Dr.Fatemeh Keyvani(Shiraz University)
  - Advanced Programming [Sep 2021]
    - In recognition of your attending in the oil & Gas & petrochemical industries course in the Summer school of Amirkabir University of Technology.(Python)
    - Instructor:Dr.Amir Golroo(Amirkabir University of Technology)
  - Advanced Programming [Jan 2022]
    - Leading and supervising students in Course Material,Exams (MATLAB)
    - Instructor:Dr.Hamed Peyrovedin(Shiraz University)
  - Advanced Programming [Jan 2022]
    - Leading and supervising students in Course Material,Exams (MATLAB)
    - Instructor: Dr.Behnam Shahsavani(Shiraz University)
  - Physical Chemistry [Present]
    - Solving questions of thermodynamics and physical Chemistry in chemical engineering.
    - Instructor:Dr.Hamed Peyrovedin(Shiraz University)
  - Engineering Mathematics [Present]
    - Correcting and holding quizzes and homework, holding a class to solve exercises in chemical engineering.
    - Instructor:Dr.Mohammad Khorram(Shiraz University)

References, Further information, and Proofs are available upon Request