

ISFANDIYAR EMINLI

CHEMICAL ENGINEER



EXPERIENCE & SKILLS - GENERAL OVERVIEW

- Unit operations & Process Control- controlling distillation columns, separators, centrifugal compressors, pump; unit maintenance, working with P&IDs & PFDs, process design & simulation
- Research techniques - electrostatic, physical, chemical adsorption process setup, metal oxide nanostructures, sol-gel & electrospinning coating technique, characterization tools for surface morphology, crystallization, electrical resistance
- Computational skills- programming with Python, process simulation with Aspen HYSYS & DWSIM
- Safety regulations & inventory management - PPE, chemical process safety, ISO standards, hazardous waste management
- Soft skills - effective communication, teamwork, team management & control

WORK EXPERIENCE

Engineering Researcher

University of Kentucky | Lexington, KY

08.2022-05.2023

- Metal oxide nanofilm & nanostructure synthesis
- Electrostatic, physical & chemical adsorption experiments
- Sol-gel coating technique
- Functionalization with dye & nanoparticle adsorption experiments
- Cyclic voltammetry & applied constant voltage experiments
- SEM/EDS, XRD, Raman spectroscopy, flux, four-point probe characterizations
- Mentoring
- Safety regulations, waste & inventory management
- Scientific article planning & preparation
- Scientific work presentation to the audience
- Completion of responsible part of NSF funded project

Founder

Earthwise Technologies | Lexington, KY

03.2024-Present

earthwisetechs.com

- Startup formation & legal works
- Business model preparation & presentation
- Financial & cost analysis preparation and presentation
- Pitching
- Technical product prototyping & development
- Team management & coordination
- Negotiations with an investor & partners

Achievements:

- Participation & winning accelerator program by Von Allmen Center for Entrepreneurship & receiving director's and program's awards
- Formation & coordination of skilled technical & non-technical team
- Successful negotiations for cooperation, product development, investment & consulting

Chemical Engineer & Shift Supervisor

SOCAR | Baku, Azerbaijan

02.2021-07.2022

- Process control & monitor for light gas separation & ethylene purification unit
 - Unit operations
 - Technical problem troubleshooting
 - Leading the shift for safe and effective control of production unit
 - Permit to Work (PTW) authorization & work control
 - Process optimization
 - Technical report preparation
 - Effective team work
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Engineering Researcher

Nanolab @ Khazar University | Baku, Azerbaijan

04.2019-12.2019

- Electrospinning
- Polymer nanofiber synthesis
- Hydrophobicity analysis
- Poster preparation & presentation in an international conference

EDUCATION

Chemical Engineering | Doctor of Philosophy

08.2024- ongoing

University of Kentucky

- Completing ongoing projects from past Master's program
- Writing, drafting academic articles related to scientific works in the past
- Taking courses related to the Chemical Engineering, Statistics and Science
- Exploring new scientific projects
- Participation in national conferences and symposiums.
- Writing scientific articles and chapters for publication

Chemical Engineering | Master of Science

08.2022- 08.2024

University of Kentucky | GPA 3.5 / 4

- Completion of a project of synthesizing, characterizing & functionalizing electrochemically active Titania nanofilms & nanostructures
- Fully funded degree by National Science Foundation & University of Kentucky
- Regular seminar participations & discussions
- Mentoring & Proctoring
- Courses taken:

Chemical Engineering Problems Analysis	Equilibrium Thermodynamics
Advanced Chemical Reactor Design	Applied Surface Chemistry
Special Problems in Chemical Engineering	Basic Statistical Analysis
Innov. at Nexus of Food, Energy & Water Systems	Transport

Baku Engineering University | GPA 95 / 100

- Completed a project of synthesizing & characterizing metal organic frameworks.
- Fully funded degree & monthly stipend.
- A seminar participation & discussions
- Courses taken:

Advanced Separation Processes	Process Design
Advanced Organic Technology	Chemical Process Simulation
Advanced Electrochemistry	Organic Synthesis
Advanced Catalysis and Catalytic Processes	Spectrometry
Fundamentals of process safety	Computer Technologies
Stereochemistry and Reaction Mechanisms	Pedagogical Study
Fuels and Testing Methods	Research Methods

Chemical Engineering | Bachelors of Engineering**Baku Higher Oil School | GPA 85 / 100**

- The accredited program by Institution of Chemical Engineers (IChemE).
- Program prepared and implemented with Heriot-Watt University of United Kingdom
- Practical coursework along with theoretical studies
- Engineering experiments related to the industrial processes such as unit operations
- Participation in numerous technical and non-technical trainings, seminars & events
- Participation in extracurricular activities including the Logic Olympiads nationwide
- Fully funded degree & monthly stipend
- Courses taken:

Chemical Reaction Engineering	Process Engineering
Sustainability, Health and Safety	Separation Processes
Chemistry of Materials for Chemical Engineers	Chemical Reactivity
Intro. to Chemical Thermodynamics and Reactivity	Process Design
Application of Computers in Engineering	Process Modelling
Energy Production & Utilization	Unit Operations
Multiphase Thermodynamics	Oil and Gas Processing
Chemical Reaction, Modelling and Control	Energy Geopolitics

SKILLS

Experience & capability of working with following tools:

- Electrospinning Machine
- Scanning Electron Microscope (SEM)
- Energy Dispersive X-Ray Spectroscopy (EDX)
- X-Ray Diffraction (XRD)
- Raman Spectroscopy
- Electrochemical Workstation
- Multi-Mode Microplate Reader (for UV-vis. spectroscopy & fluorescence m.)
- Multimeter (for electrical resistivity measurements)
- Dip-coater
- Centrifuge
- Sonicator

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Experience & capability of operating and regulating following industrial equipment:

- High-Pressure-Steam-Driven Turbine Compressors
- Distillation Columns
- Reactive Distillation Columns
- Separation Columns
- Pumps
- Drums

Computational skills:

- Programming with Python
- Process Simulation with Aspen HYSYS/Plus & DWSIM
- Data calculation, visualization & presentation with Microsoft Office products

Soft skills:

- Effective Communication
- Teamwork
- Team Management & Control
- Capability to learn new languages fast

PUBLICATIONS

- Eminli, I., Emdadi, B., & Moradi, R. (2024). Supersonic technology for condensate removal from natural gas. *Advances Natural Gas: Formation, Processing, and Applications*. Volume 5: Natural Gas Impurities and Condensate Removal, 111-145.
- Moradi, R., Khalili, N. P., Emdadi, B., & Eminli, I. (2023). Functionalized nanofiber-based drug delivery systems and biosensing devices. In *Functionalized Nanofibers* (pp. 211-251). Elsevier.

LANGUAGES, OTHER ACCOMPLISHMENTS, MEMBERSHIP & HOBBIES

- Fluent in English, Turkish, Azeri & active learner of Russian, Arabic
- Top 100 in nationwide university admission exams with 672 points out of 700 in Azerbaijan.
- Participation in nationwide scientific Olympiads in Azerbaijan
- Top 3 in Sheki-Zagatala regional scientific competition in Azerbaijan.
- Member of American Institute of Chemical Engineers (AIChE)
- Member of Society of Petroleum Engineers (SPE)
- 1st place in chess tournament held in university during undergrad years.

REFERENCES

Dr. Rasoul Moradi Khazar University, As. Professor	rmoradi@khazar.org
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Dr. Amir Reza Vakhshouri Baku Higer Oil School, former head of the chemical engineering department	amir.vakhshouri@gmail.com

CONTACTS

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