Reihaneh Toutouni

Curriculum Vitae

Skills

Programming	Python, MATLAB, C++, SQL, Git
Machine Learning	PyTorch, Scipy, Numpy, Scikit-learn, Pandas, Matplotlib
Professional Software	Gromacs, COMSOL, AutoCAD, Corel, SGFramework, ADS, Spice, ADSA, Leica, LaTeX
Passed Graduate Courses	Python Programming, System Analysis, Machine Learning, Bayesian Methods for ML, Artificial Intelligence, Convolutional Neural Networks for Visual Recognition, Linear Algebra, Probability and Statistics, Signals and Systems, Linear Control Systems

Research Experience

2017–2022 *Research Assistant, Center of Innovation for Flow Through Porous Media, University of Wyoming.*

- Utilizing multiple machine learning techniques to predict interfacial tension of hydrocarbon mixtures at any tempreture and pressure.
- Molecular dynamics simulations of interfacial tension in hydrocarbon mixtures.
- Modelling the effects of temperature and pressure on interfacial tension of hydrocarbon mixtures.
- Measurement of interfacial tension of hydrocarbon mixtures at wide ranges of pressure and temperature.

2016–2017 *Research Assistant, NanoBio Systems Lab and AggieFab Nanofabrication Facility, Texas A&M University.*

- Develop an optical system to detect fluorescent microparticles in high-speed fluids.
- Fabrication of a droplet microfluidic screening platform for analyzing microalgal cell growth.

2013–2016 *Research Assistant, MEMS and NEMS Lab and TCAD Lab, University of Tehran.*

- Design, simulation, and fabrication of a microfluidic device for separation of circulating tumor cells from blood cells.
- Construction of a UV lithography system for fabrication of microstructures in a large area with minimum feature size: 1 micron.
- Simulation and fabrication of an inertial microfluidic device for separation of circulating tumor cells from blood cells.

Education

2017–2022 **Ph.D.**, *Petroleum Engineering*, **University of Wyoming**
2013–2016 **M.Sc.**, *Electrical Engineering*, **University of Tehran**
2009–2013 **B.Sc.**, *Engineering Science*, **University of Tehran**, **(**First Rank)

Publications

7 journal papers `https://scholar.google.com/citations?user=Jj35q7AAAAAJ&hl=en`

Honors and Awards

2017–Present Full scholarship + stipend, University of Wyoming.
2009–2016 Full scholarship, University of Tehran.
2013 Honorary admission to the University of Tehran for a master's degree.
2013 First rank in Engineering Science class of 2013, University of Tehran.
2011, 2013 FOE Faculty of Engineering Award, University of Tehran.
2013 AES Senior Academic Award, University of Tehran.
2013 BSPW Basic Science Prize for Women, University of Tehran.
2013 AESA Senior Academic Award, University of Tehran.
2009 Ranked top 1% in the Iranian University entrance exam among 400,000 participants.
2006,2007 Admitted to the National Mathematical Olympiad (Admission rate $< 0.1\%$).
2002–2009 Attended the Exceptional Talents High School (Admission rate $< 0.8\%$).

Volunteer Service

2017–2018 President of the Persian Student Association, University of Wyoming.
2014 Member of College of Engineering's Tennis Team, University of Tehran.

Additional Info

Visa U.S. Permanent Resident.