Skills

Programming

- MATLAB
- C++

Software

- OpenFOAM
- Tecplot
- Paraview
- ANSYS FLUENT
- CATIA
- ANSYS ICEM
- SALOME

Experimental Techniques

- PIV
- LIF
- LA

Fluid Dynamics

- CFD

English Language (IELTS)

- Overall: 7
- Speaking: 6.5
- Listening: 7.5
- Reading: 7
- Writing: 6.5

Contact

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Dept. Mechanical Engineering, Sharif University of Technology, Azadi St.

Personal Information

Name	Birth date	Nationality
Shayan Habibi	22 Jan. 1997	Iranian

Education

2019 – 2022 MS in Mechanical Engineering

Sharif University of Technology (SUT), Tehran, Iran

- Project advisor: Dr. B. Firoozabadi
- GPA: 19.25/20 (4/4)

2015 – 2019 BS in Mechanical Engineering

Iran University of Science Technology (IUST), Tehran, Iran

- Project advisor: Dr. M. Siavashi
- GPA: 17.39/20 (3.722/4)

2011 – 2015 Diploma in Physics and Mathematics

Salam high school, Tehran, Iran

- GPA: 19.63/20

Research Interests

- Computational Fluid Dynamics (CFD)
- Turbulent Flows
- Buoyancy-Driven Flows
- Large Eddy and Direct Numerical Simulations
- Turbulent Jets and Plumes
- Optical Flow Diagnostic Techniques

Honours and Awards

Ranked 4th (out of 119) in MS program

Sharif University of Technology (SUT), Tehran, Iran

Ranked 6th in MS program entrance exam

National Organization of Educational Testing, Iran

Candidate for direct MS program

Iran University of Science and Technology (IUST), Tehran, Iran

Ranked 3rd in Flamenco guitar competitions

Second competition of performing Flamenco guitar, Qazvin, Iran

Publications

Journal

4. Habibi, S., Azadi, A., and Firoozabadi, B. Identification of coherent structures in inclined negatively buoyant jets with sloped beds (**In preparation**).

3. Azadi, A., Firoozabadi, B., Ashanani, A. A., and **Habibi, S.** Effects of bed obstacles on the behaviour of inclined dense jets (**In review**).

2. Habibi, S., Azadi, A., and Firoozabadi, B., Large Eddy Simulation of Inclined Negatively Buoyant Jets with Sloped Beds (**In review**).

1. Jafari, M., Jamshidian Ghalehsefidi, M., and **Habibi, S.**, 2022. Application of numerical simulation to solid phase-microextraction for decreasing of extraction time of Pyrene and Phthalate esters on solid coatings, *Journal of Chromatography A* (**Accepted**).

Conference

2. Habibi, S., Azadi, A., Ashanani, A. A., and Firoozabadi, B., 2021, Evolution of Shear and Buoyancy Driven Vortices of an Inclined Negatively Buoyant Jet, *19th Fluid Dynamics Conference*.

1. Habibi, S., Azadi, A., and Firoozabadi, B., 2021, Numerical investigation of the sea bed inclination effects on the spreading of inclined dense jets discharged from reverse osmosis desalination plants, *The 7th International Conference on Environmental Engineering and Natural Resource* (In Persian).

Relative Coursework

Computational Fluid Dynamics (CFD)
Grade: 20/20

Advanced Numerical Analysis
Grade: 19.5/20

Advanced Fluid Mechanics
Grade: 20/20

Continuum Mechanics
Grade: 19/20

Convective Heat Transfer
Grade: 19/20

Advanced Mathematics I
Grade: 20/20

Teaching Experience

Teaching Assistantship

- Numerical Analysis, Instructor: Dr. M. Aryanpour, 2021
- Advanced Fluid Mechanics, Instructor: Dr. A. Moosavi, 2021
- Advanced Engineering Mathematics I, Instructor: Dr. A. Moosavi, 2020
- Fluid Mechanics I, Instructor: Dr. M. Siavashi, 2017

Projects

2019 - 2022 MS project
Sharif University of Technology (SUT), Centre of Excellence in Energy Conversion (CEEC)

Thesis title: Numerical investigation of the seabed inclination effects on mixing characteristics of the brine discharged jet from desalination plants
Advisor: Dr. B. Firoozabadi

2021 **Computational fluid dynamics**
Sharif University of Technology (SUT)
Two-dimensional fully unstructured (polygonal cells) cell-centred finite volume MATLAB code for solving scalar transport equation with discontinuities using various TVD schemes

2020 **Optical measurement systems and lab.**
Sharif University of Technology (SUT), Centre of Excellence in Energy Conversion (CEEC)
Velocity measurements using Particle Image Velocimetry (PIV):

1. Mixing of a non-buoyant jet
2. Convective heat transfer
3. Swirl mixing

Concentration and temperature measurements using Laser Induced Fluorescence (LIF):

1. Mixing of a vertical dense jet
2. Mixing of a vertical cold jet

2020 **Case study in fluid dynamics**
Sharif University of Technology (SUT)
Similarity solutions of power-law gravity currents propagating in confined and unconfined beds

2020 **Case study in continuum mechanics**
Sharif University of Technology (SUT)
Analytical solutions of oscillatory couette flow of an Oldroyd B fluid using Fourier transform theorem

2020 **Case study in heat and fluid flow**
Sharif University of Technology (SUT), Centre of Excellence in Energy Conversion (CEEC)
Analytical solutions for an electro-osmotic flow in a slit micro-channel

2019 **BS project**
Iran University of Science and Technology (IUST)
Thesis title: Mathematical modelling and simulation of the pulse and investigating the affecting factors
Advisor: Dr. M. Siavashi

References

Dr. B. Firoozabadi
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