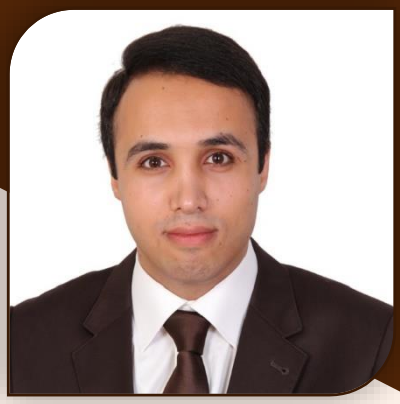

Saeed Parvar

Computational Scientist

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Highlights

Soft Skills
-Excellent management and leadership skills.
-Encourage and value collaboration and input from all team members.
-Team-oriented and problem-solving personality
-Excellent communication skills

Software Skills
Programming: Fortran, MATLAB, C++, Python, Anaconda, Visual Studio, HTML, and Git.

- Proficiency in Troubleshooting and debugging,
- Performance and scalability optimization,
- Shell scripting

Machine learning
Familiarity with: R, SQL, Power Bi

HPC:
PBS and Slurm, MPI, OpenMP, OpenACC.

Summary

A professional computational scientist that has considerable experience in mathematical, statistical, and machine-learning methods to solve complex problems in various engineering fields, more than ten years of experience in code developing and using CFD packages, analyzing data and visualization and over five years of experience as sales manager, business strategy, and training new employees.

Education

FEUP, University of Porto, Portugal.

Ph.D.: Mechanical Engineering, GPA (A)

Thesis: LES model for inhomogeneous wall-free turbulent flows

Work History

Postdoctoral researcher, KTH, Stockholm, Sweden (2021-Present)

Project titles

1. Utilizing machine learning methods, Proper Orthogonal Decomposition (POD) and Dynamic Mode Decomposition (DMD) in Python and MATLAB environments to reduce the complexity of the model to analyze flow structure and features. Computation performed on Dardel, PDC (In collaboration with Technical University of Madrid, Spain), (Submitted in J. Fluid. Mech.)
2. The study of ElastoViscoPlastic fluid, described by the Saramito model, flows past porous medium with random geometry. Computation performed on Tetralith, NSC (Collaboration with Strathclyde University, UK) (Submitted in J. non-Newton. Fluid Mech.)
3. Heat transfer of the ElastoViscoPlastic fluid in a cavity problem. Computation performed on Kebnekaise, HPC2N (Collaboration with Concordia University, Canada). (Under process)
4. DNS of the non-Newtonian fluids flow past a circular cylinder by implementing several constitutive equations of non-Newtonian fluid and utilizing log conformation tensor algorithm to handle the high Weissenberg number problem. Computation performed on Dardel, PDC (Collaboration with Luca Brandt Group, KTH. (Submitted in J. Fluid. Mech.)
5. Investigating the turbulent cavitating viscoelastic fluid flows by performing DNS and LES (Collaboration with the Technical University of Munich, Germany), (Applied for Marie-Sklodowska-Curie Scholarship)
6. Investigating the ElastoViscoPlastic fluids flow past a confined cylinder (elastic turbulence) (Collaboration with the University of Porto, Portugal). (Requested 30 million core/hours from EuroHPC-Meluxina)

CFD Engineer, INEGI, Porto, Portugal (2020-2021)

Project title:

1- Developed and proposed analytical solution to study boundary (and heat transfer) and mixing layer, and jet flow of FENE-P fluid verified with RheoFoam toolbox of Openfoam (Collaboration with the Instituto Superior Técnico, Portugal). (Published in Int. J. Heat Mass Transf. and J. Eng. Math.)

Visiting researcher at Coppe, (UFRJ), Brazil, (2018)

Project title:

1- DNS of turbulent non-Newtonian flow in a rod-roughened channel. (Presented at THMT-18, Rio de Janeiro)

CFD Package:
OpenFoam,
RheoFoam,
Ansys,
Fluent,
Gambit,
COMSOL,
AutoCAD.

Other software packages:
Tecplot,
Paraview,
Maple.

Language:

English	Fluent
Portuguese	Medium
German	Basic
Persian	Native
Turkish	Medium

Hobbies:
Tennis
Cycling
Hiking
Running
Travelling
Cooking
Movies

FCT researcher at FEUP, Porto, Portugal (2017-2020).

Project title:

1- Developing a LES model for inhomogeneous wall-free turbulent viscoelastic fluid flows and post-processing tools to verify and assess the performance of the model (Collaboration with the Instituto Superior Técnico, Portugal). (Published in Phys. Fluids and J. Non-Newton. Fluid Mech.)

2- Renewable energy systems

During my Ph.D. I got involved in several projects related to renewable energy with the following topics:

a. Wind Energy in Urban Environment: concepts, technology, and potential (Technical report)

b. Evolution, state of the art and future perspectives of high-temperature thermal energy storage for thermoelectric solar power plants (Technical report)

c. Energy storage for thermoelectric solar power plants (Technical report)

d. Importance of production and trade of wood pellets in Iran (Technical report)

e. Importance of solid oxide fuel cells (Technical report)

f. The Energy Return of Investment of Anaerobic Digestion (Technical report)

g. The Production of Bioethanol; Pros and Cons (Technical report)

The main idea behind these projects was a comprehensive study of the concepts, technology, and potential of various renewable energy sources and the potential assessment of the generating energies from mentioned technologies.

Area Sales Manager, Hirkan, Guilan Iran (2012-2017)

1- Assisted in managing all department operations, employee performance reviews, and health standards maintenance.

2- Perform monthly financial management and manage the product supply chain and stock orders to reduce costs and maximize profit margins.

3- Assigning tasks to sales representatives and maintaining office supplies and mentoring new employees: led their-field training and developed analytical and sales acumen as well as corporate experience.

4- Handle b2b and inside sales with corporate companies and build relationships with existing as well as some new customers to improve sale productivity.

5- Proposing strategic planning and roadmap to achieve profitability targets, client satisfaction, and employee welfare over five years.

Mechanical Inspector, Guilan Construction Engineering organization, Iran (2012-2017)

As a mechanical inspector, I was responsible for "safeguarding life, health, property, and public welfare by regulating the design, construction, installation, quality of materials, location, operation, and maintenance or use of the piping system as well as its operation for water, wastewater, and natural gas. Then report the inspection result to the construction Engineering organization to issue the building certificate.
(Certificate: Building Mechanical Installations Engineering (Grade 3) – Design, Supervision)

Lecturer at The Mechanical Engineering Department (2012-2017)
Payam Nour University of Rasht, Iran.

Teaching activities: Thermodynamics, Heat and mass transfer, Industrial drawing and AutoCAD.

Accomplishment

1- Submitting 4 papers during Postdoc.
2- Published 6 papers during Ph.D. in the Q1 ISI journal and graduated with GPA (A).
3- Full fund visiting researcher grant from COPPE, UFRJ (2018).
4- Full fund FCT scholarship for Ph.D. (2017).
5- Best paper award, ISME 2015 (Iran).
6- Nominated thesis by Iranian Combustion Institute (ICI).