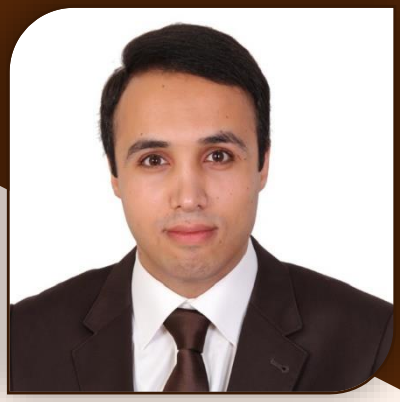

Saeed Parvar

Research and development Scientist

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Highlights

Computational Science
Data Science
Data Analysis
Simulation

Data Science Package
R, SQL, Power Bi, Pandas

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

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

Summary

I am an accomplished research and development scientist with extensive expertise in computational science, data analysis, and visualization. I specialize in using cutting-edge techniques like simulation, high-performance computing, and machine learning to solve complex engineering problems. My strength lies in extracting valuable insights from intricate datasets and implementing data-driven solutions. In particular, I have a deep understanding of Fluid dynamics (including microfluidics), Heat Transfer, Combustion (chemical reaction), rheology. I am skilled in algorithm development and have a strong command of computational fluid dynamics packages. What sets me apart is not only my technical proficiency but also my exceptional leadership and communication skills. This combination allows me to make meaningful contributions to research and development projects, bringing innovation and success to the table.

Work History

Senior Simulation Engineer, KTH, Stockholm, Sweden (2021-Present).

- Contributed to the algorithm development of several codes (10,000+ lines 0f codes in Python, Matlab, and Fortran) for simulating complex systems such as Heat Transfer, Porous Medium, and non-Newtonian Fluid.
- Successfully executed parallel computations on various High-Performance Computing clusters.
- Conducted data visualizations, interpretation and generated technical reports.
- Implemented diverse machine learning techniques (POD, DMD) on simulation data.
- Collaborated with multiple teams from esteemed institutions including Strathclyde University (UK), Concordia University (Canada), Technical University of Madrid (Spain), and University of Porto (Portugal) on more than 5 projects.
- Supervised and led team of engineers on their simulation tasks and algorithm development.
- Presented achievements and findings at reputable conferences.

R&D Engineer, INEGI, Porto, Portugal (2020-2021).

- Utilizing several computational fluid dynamics packages (Ansys Fluent, RheoFoam toolbox of Openfoam) for simulating three-dimensional Microfluidics Flow and Heat Transfer problems.
- Identifying technical solutions to a given problem and optimizing simulations tools in terms of multiple criteria.
- Works with other team members on project timeline and resources to successfully implement complex projects.
- Conducted data visualizations and analysis to generate technical reports.

Research fellow at FEUP, Porto, Portugal (2017-2020).

- Developing a turbulence model for polymeric fluid flows (Collaboration with the Instituto Superior Técnico, Portugal).
- Developed 20,000+ lines of codes to design and develop algorithms for a computational software (Fortran, MATLAB, C++) to simulate turbulent polymeric fluid on various High-Performance Computing clusters.
- Conducted qualitative, quantitative, and statistical analyses on petabytes of simulations' data.
- Identify and develop data visualization methods for high fidelity data.
- Renewable energy systems
  a. Wind Energy in Urban Environment: concepts, technology, and potential.
  b. High-temperature thermal energy storage for thermoelectric solar power plants
  c. Energy storage for thermoelectric solar power plants
  d. The production and trade of wood pellets
  e. Importance of solid oxide fuel cells
  f. The Energy Return of Investment of Anaerobic Digestion
  g. The Production of Bioethanol; Pros and Cons

  These projects aimed to comprehensively study the concepts and technology of various renewable energy sources and assess their potential for energy generation.

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

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

Other software packages:
Tecplot,
Paraview,
Maple.

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

Language:
English Fluent
Portuguese Medium
German Basic
Persian Native
Turkish Medium

Hobbies:
Tennis
Cycling
Hiking
Iranian BBQ (expert)
Running
Travelling
Cooking
Reading
Podcast

Visiting Engineer at Coppe, (UFRJ), Brazil, (2018).

- The simulation of turbulent non-Newtonian flow in a rod-roughened channel.
- Developed 2,000+ lines of codes for post-processing of the simulation data (C++) to conducted qualitative, quantitative, and statistical analyses.

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

- Conduct thorough inspections to examine the quality of materials, location, and operation of piping systems for water, wastewater, and natural gas.
- Report inspection and verification results to the construction engineering organization for the issuance of building certificates.
- Hold a Building Mechanical Installations Engineering (Grade 3) certificate, demonstrating proficiency in system design and supervision.

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

- Perform monthly financial management and manage the product supply chain and stock orders to reduce costs and maximize profit margins.
- Assigning tasks to sales representatives and maintaining office supplies and mentoring new employees: led their-field training and developed analytical and sales acumen.
- Handle b2b and inside sales with corporate companies and build relationships with existing as well as some new customers to improve sale productivity.
- Proposing strategic planning and roadmap to achieve profitability targets, client satisfaction, and employee welfare over five years.

Education

- **Ph.D.: Mechanical Engineering (2021).**
  FEUP, University of Porto, Portugal.
  Thesis: LES model for inhomogeneous wall-free turbulent flows.

- **M.Sc: Aerospace Engineering (2010).**
  Tarbiat Modares University.
  Thesis: Numerical Simulation of compressible combustion flow.

- **B.Sc: Mechanical Engineering (2007)**
  Guilan University.
  Thesis: Tidal Power systems.

Accomplishment

- Awarded the Euro HPC Regular Access Grant (20.000.000 core hours on MeluXina CPU)
- Invited reviewer of Physics of Fluid and non-Newtonian Fluid mechanics Journals
- Published 5 papers during Ph.D. in the Q1 ISI journal and graduated with GPA (A).
- Full fund visiting grant from COPPE, UFRJ (2018).
- Full fund FCT scholarship for Ph.D. (2017).
- Best paper award, ISME 2015 (Iran).
- Nominated thesis by Iranian Combustion Institute (ICI).