MOHAMMADHOSSEIN NAHAVANDIAN

PhD Student in Mechanical Engineering, Graduate Research Assistant

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JOB EXPERIENCE

Industrial HVAC & Firefighting Systems Specialist

TAM co.

June 2020 – Nov 2021 | Tehran, Iran

- Engineering design, installation, and inspection of industrial HVAC & Fire suppression systems, including exhaust, air conditioning, fire dynamic analysis and water sprinkler, high & low expansion foam, water mist, and clean agent gas systems. Based on the latest Standard codes like NFPA, B.S.

HVAC & Firefighting Systems Specialist

Imen Gostar Tehran Pouya co.

May 2019 – May 2020 | Tehran, Iran

- Engineering design of HVAC & Fire Extinguishing systems, including exhaust, fire dynamic analysis, and water sprinkler for residential and commercial buildings following Tehran fire department rules and NFPA codes.

HVAC Systems Specialist

Tahvieh Tehran co.

Sept 2017 – Nov 2018 | Tehran, Iran

- Engineering design and parking Smoke Management Systems, including CFD simulation for fire dynamic analysis based on the NFPA standard.

TEACHING AND RESEARCH EXPERIENCES

Graduate Research Assistant

Department of Mechanical Engineering

Jan 2024 – present | Clemson, SC, United States

- Project: Composition-Aware Microstructure Evolution and Strength Models for Irradiated Ferritic Steel, Funded by DOE
- Using Kinetic Mote-Carlo method and Phase Field Modelings

Graduate Lab Assistant – Section ME2220

Department of Mechanical Engineering

Jan 2022 – Jan 2024 | Clemson, SC, United States

- Teaching undergraduate-level lab experiments

University Lecturer

Department of Mechanical Engineering

Dec 2014 – Jul 2017 | Roozbeh University, Zanjan, Iran

- Teaching and advising Undergraduate level students

MY PHILOSOPHY

"Science is the most precious thing we have (A. Einstein)"

MOST PROUD OF

- **ME Excellence Award for Graduate Teaching Assistants 2024**
  nominated by faculty & ME undergrad students
- **Graduate Travel Grant for MS&T2023 Conference**
  Awarded by the Graduate Student Organization of Clemson University
- **Supplementary Travel Award for TMS2024**
  Awarded by Clemson College of Engineering, Computing and Applied Sciences
- **Writing Across the Curriculum (WAC) Grad Fellow - Spring and Fall 2023**
  Awarded by Pearce Center, Clemson Uniersity

RESEARCH INTERESTS

Computational Materials engineering | Irradiation Damage | Condensed Matter | Complex fluids | Computational Fluid Mechanics | Multiphase flows | Hydrodynamic stability analysis | Fire protection system | HVAC systems

LANGUAGES

English
Persian
Azerbaijani

Teacher Assistant

Department of Polymer-Textile Engineering

Dec 2016 – June 2020 Amirkabir University of Technology, Iran

- Teacher Assistant for undergraduate level courses of Fluid Mechanics 1&2, Thermodynamics 1

PUBLICATIONS (JOURNAL, CONFERENCE, AND POSTER)

- **M Nahavandian**, S Sarkar, S Bagchi, D Perez, E Martinez. (2024). From anti-Arrhenius to Arrhenius behavior in a dislocation-obstacle bypass: Atomistic simulations and theoretical investigation. Computational Materials Science, 239, 112954.
- S Sadralashrafi, **M Nahavandian**, D Neyens, B Knijnenberg, D Li. (2024). Promoting Eco-Friendly Space Usage in Activity-Based Workspaces through Eco-Feedback. Proceedings of the Human Factors and Ergonomics Society Annual Meeting. (Accepted for publication)
- **M Nahavandian** S Sarkar, E Martinez. (2024). "From anti-Arrhenius to Arrhenius behavior in a dislocation-obstacle bypass: Atomistic Simulations and Theoretical Investigation", TMS 2024, Annual Meeting and Exhibition, Orlando, Florida, USA, 2024 (Presentation)
- **M Nahavandian**, S Sarkar, E Martinez. (2023). From Anti-Arrhenius to Arrhenius Behavior in a Dislocation-obstacle Bypass, Materials Science & Technology Technical Meeting and Exhibition, Columbus, Ohio, USA, (Presentation)
- **M Nahavandian** and E Martinez. (2022). Role of Activation Entropy in Dislocation Dynamics. research fellows & all faculty conference & celebration RFAF2022 (Made in SC), Greenville, South Carolina, USA. (Poster)
- **M Nahavandian** and A Izadi. (2019) Numerical Simulation of Flow Hydrodynamic Around Dolphin Body in Viscous Fluid. Journal Of Marine Engineering. Research Paper vol. 15, no. 29, pp. 147-165. (Journal Article)
- M Saffar Avval, MR Eslami, N Zehtabiyan-Rezaie, **M Nahavandian**. (2019). Status of research in the field of engineering in Iran; With a focus on mechanical engineering. Iranian Journal of Engineering Education, vol. 21, no. 82, pp. 31-57. (Journal Article)
- S Sadralashrafi,SHR Pasandideh, ST AkhavanNiaki, **M Nahavandian**,(2018). The gardener problem with reservation policy and discount. Computers & Industrial Engineering. 123, 82-102. (Journal Article)
- **M Nahavandian**, M Pourjafar, K Sadeghy. (2018). Stability of Thixotropic Fluids in Pipe Flow. Scientia Iranica. vol. 25, no. 2, pp. 790-798. (Journal Article)
- **M Nahavandian**, H Khoramishad. (2016) Effects of geometry and material factors of adhesively bonded single lap joint on stress concentration. The International Conference on New Researches in Engineering Sciences, Tehran, Iran, 2016. (Conference Paper)

SKILLS

Software Skills

- Microsoft Office 2023: Word, Excel, Power Point, One Note.
- Python, MatLab, Bash, Wolform Mathematica, and Fortran.
- AutoCAD, Ansys (Fluent, CFX, ICEM), SOLIDWORKS, AutoSPRONK, Fire Dynamic Simulator, and Pyrosim.

EDUCATION

B.Sc. in Mechanical Engineering

Iran University of Science & Technology

Tehran, Iran, 2012

M.Sc. in Mechanical Engineering

University of Tehran

Tehran, Iran, 2015

PhD. Student in Mechanical Engineering

Clemson University

Clemson, SC, United States, 2022 - present

REFERENCES

Dr. Enrique Martinez Saez
@ enrique@clemson.edu
Associate Professor of Mechanical Engineering in Clemson University
Clemson, South Carolina, 29634

Dr. Atieh Moridi
@ moridi@cornell.edu
Associate Professor of Mechanical Engineering in Cornell University
469 Upson Hall, Ithaca, NY,14853

Dr. Blas Pedro Uberuaga
@ blas@lanl.gov
Los Alamos National Laboratory
New Mexico

Soft Skills

- Strong communication and presentation skills.
- Excellent Multi-Tasking and self motivation.
- Inspiring leadership and coaching skills.
- Excellent problem solving skills.
- Teamwork and collaboration skills.

SOCIAL NON-PROFIT ACTIVITIES

- Communication director of the Clemson Iranian Students Organization (CISO) (Sept 2022 – Sept 2023).
- Graduate Student Council member at ME Department of Clemson University (MEGSC) (Sept 2023 – present).