Mostafa Beiranvnad

Address: Bu Ali University, Hamadan, Iran

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Education

Sep/2018 -present   M.Sc. in Mechanical Engineering

Location: Bu Ali University, Hamadan, Iran

Thesis Topic: Thermodynamic analysis of a combined heating and power system driven by geothermal and solar energy

Supervisor: Dr. Mohsen Goodarzy

2014 – Feb/2018   B.Sc. in Mechanical Engineering

Location: Torbat-E-Heydarieh university, Khorasan, Iran

Thesis Topic: Using PCM in office building of Torbat-E- Heydarieh University

Thesis grade: 18.5/20

GPA: 16.32/20

Supervisor: Dr. Mohamad Reza Gharib

Research Interests

- ❖ Renewable energy optimization
- ❖ Renewable energy combination
- ❖ Domestic application of CCHP and ORC
- ❖ Heat Transfer of electronic devices and heat exchangers
- ❖ Thermal energy conservation
- ❖ Drag reduction of vehicles
- ❖ Nature-Inspired Fluid Mechanics

Publications

- ❖ M. Beiranvand – M.Reza Mohaghegh, Using PCM in office building of Torbat-E-Heydarieh University (Under Submission)

Books

- ❖ "Overbalanced Wheel" (Written in Persian)

Academic Projects

Theoretical projects:

- ❖ Numerical solution (Coding in Fortran) of hydrodynamic boundary layer equations with similarity variable by Range-Kutta method and shooting algorithm

- ❖ Numerical solution of non-viscous equation with finite difference method by five methods including Rung-Kutta in Fortran

- ❖ Analyze the air flow inside a cavity by Fluent software

- ❖ Solving PDE of unsteady heat conduction with different boundary conditions in 2D by coding in Fortran

- ❖ Solving PDE of steady heat conduction in 2D by coding in Fortran and MATLAB

- ❖ Numerical solution (Coding in Fortran) of the first order wave equation with finite difference method

- ❖ Numerical solution of 2D heat conduction in methods of ADI, implicit in column, implicit in row

Practical projects:

- ❖ Repairing the laboratory device named "Pressure Drop Test" in Fluid Mechanics Lab
- ❖ Repairing the laboratory device named "Charpy Impact Test" in Mechanics of Material Lab
- ❖ Propose and build a new solar desalination device in Solar Energy course

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Work Experiences

Position: Intern

Location: Energy Department of Research Institute of Petroleum Industry, Tehran, Iran

Project: CCD and HDD computing of Tehran and heating and cooling load of a sample building by Design Builder software.

Description: analyze and computing data by the software and Microsoft Excel

Year: 2017

Certificate

- ❖ Workshop Certification of "Familiarity with Fuel Cell Technology"
- ❖ Health and Safety Executive (HSE) 2017

Honors and Awards

- ❖ Ranked within the top 10 percent of students during bachelor degree.
- ❖ Ranked the forth within 20 participant in Inner state competition of water_based rockets
- ❖ Finishing up the bachelor degree in 7 semesters rather than 8.
- ❖ Admired person with two performances as a violinist and active musician in musical association.
- ❖ Ranked the first person in Fluid Mechanics II , Heat transfer I, Computer programming by Fortran, Advanced Fluid Mechanics and Computational Fluid Dynamics among other students.

Skills

Computer skills:

- ❖ Programming Languages: Fortran
- ❖ Applied Software: Ansys Fluent, EES, Tecplot, Design Builder, Microsoft Office
- ❖ Ten_finger typing (fast typing)

Interpersonal skills:

- ❖ Skilled person in instilling and clarifying educational problems to other students
- ❖ A powerful imagination and visualizing of mechanical problems
- ❖ Mechanic_related curiousity, especially in energy
- ❖ Skilled at synthesizing as well as discriminating between sources to sift information.

Language Proficiency

English: C1
Deutsche: A1

Hobbies

- ❖ Playing offline and online chess (Rating 1200)
- ❖ Playing the violin
- ❖ Playing Basketball
- ❖ Watching documentary of Engineering applications

References

- ❖ **Name:** Dr. Mohammad Reza Mohaghegh (Research Assistant)
  Email: mor.mohaghegh@gmail.com
  Location: University of Guelph, Ontario, Canada

- ❖ **Name:** Dr. Mohsen Goodarzy (Associate Professor)
  Email: mohsengood@gmail.com
  Location: Bu Ali university, Hamadan, Iran

- ❖ **Name:** Dr. Kazem Mohammadzadeh (Associate Professor)
  Email: kazem.mohamadzadeh@gmail.com
  Location: Arak University of Technology, Arak, Iran

- ❖ **Name:** Dr. Hassan Biglarian (Senior Researcher)
  Email: hbiglaryan@gmail.com
  Location: Research Institute of Petroleum Industry (RIPI), Tehran, Iran