

Babak Nasouri

Research and Teaching Assistant
The University of Texas at Austin
Department of Mechanical Engineering

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EDUCATION

- MS THE UNIVERSITY OF TEXAS AT AUSTIN, AUSTIN, TX** August 2012 - Present
Master of Science in Mechanical Engineering
Thermal/Fluid Systems
Dissertation Topic: Inverse Methods Using Monte Carlo Simulation in Participating Media
MS Advisor: Dr. Halil Berberoglu
- BS SHARIF UNIVERSITY OF TECHNOLOGY, TEHRAN, IRAN** August 2008 – July 2012
Bachelor of Science in Mechanical Engineering
Dissertation Topic: Simulating and Characterizing the Cycle Variability in HCCI Combustion
BS Advisor: Dr. Vahid Hosseini

AREAS OF INTEREST

- Radiation Heat Transfer
- Combustion
- Micro Scale Fluids
- Alternative Fuels
- Clean and Renewable Energy Systems

PROFESSIONAL EXPERIENCES

- **Teaching Assistant** August 2012 – Present
 - ❖ ME 326 – Thermodynamics – The University of Texas at Austin – Fall 2012
 - ❖ ME 139L – Heat Transfer Laboratory – The University of Texas at Austin – Spring 2013
- **Tutoring** June 2008 – July 2012
 - ❖ Physics – Allameh Tabatabaee High School
 - ❖ Mathematics – Allameh Tabatabaee High School
- **Apprentice in Parand G.T Power Plant** April 2011 – September 2011
 - ❖ Familiarizing with some of the essential components and systems of GT
 - ❖ Practicing P&ID and KKS standards.
 - ❖ Analyzing Lube and Lifting Oil System as well as Hydraulic Oil System
 - ❖ Analyzing Fuel Oil and Fuel Gas Systems
 - ❖ Familiarizing with NDT(both theoretically and practically during system checkup)

- **Apprentice in Shayan Co.** September 2011 – July 2012
(Weishaupt Oil and Gas Burners after Sale Services)
 - ❖ Responsible for burner capacity type selection concerning the system heat demand
 - ❖ Responsible for Gas Valve Train size selection
 - ❖ Responsible for nozzle selection for Gas and heavy oil
 - ❖ Familiarizing with new digital combustion manager, ABE, high accuracy step-ping motor, frequency converter and 02-module

SKILLS

- 1 year of experience in teaching as a teaching assistant for courses in thermal-fluid sciences
- 2 years of experience in numerical analysis using MATLAB for modeling combustion in engine
- 3 years of experience in designing using SolidWorks
- 6 months of experience in radiation heat transfer through Monte Carlo method
- 6 months of experience in working in Gas Turbine power plant
- 9 months of experience in maintaining the oil and gas burners

COURSE PROJECTS

- Simulation of HCCI combustion using CANTERA.(Fundamental of Combustion Sciences)
- Thermal and Structural design of Heat Exchanger using Aspen B-JACK.(Heat Exchanger Design)
- Writing programs in MATLAB in order to get the final conditions of combustion reactions due to the given initial conditions, and assessing the results by means of STANJAN and authentic thermodynamic charts.(Fuel and Combustion)
- Structure Design of Mechanism for industrial purposes including Numerical Simulation and Modeling.(Machine Element Design I)
- Structure Design of a Gearbox for a mining purpose including the design and the analysis of every single part; such as, gears, bearings, housing and the attachments including pulley, chain and sprocket and brakes.(Machine Element Design II)

COMPUTER LITERACY

- Programming
 - ❖ MATLAB, C++
- Mechanical Design
 - ❖ Aspen B-JACK, SolidWorks, AutoCAD, AutoCAD Mechanical
- Simulation and Analysis:
 - ❖ Chemkin, STANJAN, EES, MATLAB Simulink
- General:
 - ❖ Microsoft Office, Adobe Photoshop

LANGUAGES

- Farsi/Persian (Native)
- English (Fluent)
- Arabic (Basic)

AWARDS AND HONORS

- Ranked 231st in Mathematics and Physics National Entrance Examination of Universities, Iran, Aug 2008 (every year almost 500,000 students participate in Iran Nationwide Entrance Examination in Mathematics, Physics and Engineering fields.)
- Certificate of Writing Programs & Numerical Simulations by MATLAB , Iran, May 2010
- Ranked 23th in National Entrance Examination of "Azad" Universities, Iran, Aug 2008(approximate number of participants 500,000.)
- Semi-finalist in National Physics Olympiads, Iran, April 2007
- Semi-finalist in National Chemistry Olympiads, Iran, April 2007
- Semi-finalist in National Mathematics Olympiads, Iran, April 2007
- Semi-finalist in National Astronomy Olympiads, Iran, April 2006

EXTRACURRICULAR ACTIVITIES

- Soccer
- Table Tennis
- Playing Setar (Iranian Traditional Instrument)
- Running

REFERENCES

Available upon request.