Saber NEMATI

EMAIL: mnemat2@lsu.edu
m.saber.n@gmail.com
MOBILE: +1 (225) 636 4243

EDUCATION

2020 - present | Doctor of Philosophy, **Louisiana State University**

Advisors: Prof. Shengmin GUO, Prof. Xin (Shane) LI, Prof. Les BUTLER
GPA: 3.9/4

2017 - 2019 | Master of Business Administration, **Industrial Management Institute**
GPA: 3.8/4

2011 - 2014 | Master of Science in MECHANICAL ENGINEERING, **Amirkabir University of Technology**
Thesis: "Gearbox fault diagnosis based on non-stationary vibration signal using wavelet and Fuzzy Decision Neural Network"
The raw temporal vibration signals of different faulty gears together with the healthy ones has been processed and used to train and test the intelligent system. All the process has been designed and implemented in MATLAB.
Advisors: Prof. Abdolreza OHADI, Prof. Hamidreza AMINDAVER
GPA: 3.8/4

2007 - 2011 | Bachelor of Science in MECHANICAL ENGINEERING, **Amirkabir University of Technology**
Thesis: "Dynamic Modeling of National Diesel Engine"
Dynamic behavior of a passenger car Diesel engine has been simulated in ADAMS ENGINE under different initial and boundary conditions. The model has been used to optimize the location and properties of the engine mounts using ADAMS INSIGHT.
Advisor: Prof. Abdolreza OHADI, Dr. Vahid FAKHARI
GPA: 3.7/4

PUBLICATIONS

- A. Mohammadi, **M. S. Nemati**, F. Moghaddam, M. Siamaki; *Flow and Thermo mechanical Analysis of Exhaust Manifold and Catalyst for Optimization and Emission Reduction*, 9th International Conference on Internal Combustion Engines and Oil, Tehran, 2016.
- **M. S. Nemati**, A. R. Ohadi, H. Amindaver, H. Heidari Bafroui; *Performance comparison of various Decision-Based Neural Networks in gearbox fault diagnosis*, The Biennial International Conference on Experimental Solid Mechanics, Tehran, 2014.

WORK EXPERIENCE

Current JAN 2020 | LOUISIANA STATE UNIVERSITY, Baton Rouge, LA
Graduate Research Assistant

- Chair of student committee in LouisianA Materials Design Alliance (LAMDA) project
- Teaching Assistant for ME3133 (Dynamics), ME4201 (Mechanical Engineering Design Lab), ME4621 (Thermal Science Lab), and ME3333 (Thermodynamics) at LSU

DEC 2019 AUG 2015 | IKCO, Tehran
Senior Design Engineer

- Developed automatic optimization procedures using Python (*Optimization, automatic evaluation, Post-processing routines for improving the design evaluation process*)
- Designed graphical user interfaces for bolt design and material selection using Matlab and Visual C#
- Developing an integrated suite for mechanical design using Visual C# based on Poka-Yoke technique, in order to minimize human error in the design process
- Introducing using of Agile Methods in project management in automotive industry
- Developing an intelligent system based on Neural Network to guess design parameters.

Aug 2015 – Sep 2011 | IKCo, Tehran
CAE Engineer

- Design and analysis of mechanical components of internal combustion engines
- Optimized the bore distortion calculation process by implementing a Python script (*A code which extracts the corresponding data from* Abaqus *output database for postprocessing and plotting*)
- Implemented different control strategies for parallel hybrid powertrain
- Developed a GUI for fault diagnosis of valvetrain mechanism using vibration signals

Sum 2011 | IKCo, Tehran
Intern
Position and property optimization of engine mounts of National Diesel Engine using Adams View

Sum 2010 | Indamin Saipa, Tehran
Intern
3D modeling of the shock absorber of a passenger car in SolidWorks

Miscellaneous Projects

- Structural optimization of a beam using GA (Project of Strength of Materials course)
- Design and simulation of a production line manipulator (Project of Machine Design course)
- Design and simulation of a 6-link mechanism for filling bottles in a production line in Adams View (Project of Design of Mechanisms course)
- Design, simulation and control of BallBot robot using State-Space methods (Project of Modern Control course)
- Design, simulation and control of a rectangular quadcupter in Matlab Simulink

Elective Courses

Graduate	Advanced Automatic Control, Statistical Signal Processing, Wavelet Signal Processing, Robot Kinematics and Dynamics, Mechatronic System Modeling
Undergraduate	Finite Element, Applications of Hydraulic Systems, Design of Mechanisms, Mechatronics, Vehicle Chassis Design, Industrial Control Design

Scholarships

Aug 2021	Louisiana Materials Design Alliance (LAMDA) Symposium contest prize winner
Jun 2021	NSF Student Grant recipient for the PowderMet2021/AMPM2021/Tungsten2021 conferences
Aug 2007	Ranked 460 among more than 300,000 candidates in National University Entrance Exam

Certificates

Aug 2021	LAMDA: *Outstanding leadership at the LAMDA graduate student retreat and symposium*
Self-Paced	Udacity: *Machine Learning* [Audit Track]
Dec 2017	MITx: *Mechanical Behavior of Materials: Time-Dependent Behavior and Failure* [certificate]
Aug 2014	MITx: *Introduction to CS and Programming Using Python* [Audit Track]
Jul 2014	edX: *Autonomous Navigation for Flying Robots* [certificate]
Dec 2013	MITx: *Dynamics* [certificate]

Computer Skills

Advanced:	Python, C#,Matlab & Simulink, HyperMesh, Abaqus, SimLab
Intermediate:	Excel, Word, PowerPoint, Adams
Basic:	FemFat, Fe-Safe, SolidWorks, Catia, vba, C++, LaTeX, mySql, Access