SHENGJUN(DANIEL) ZHANG

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B241, Department of Electrical Engineering, University of North Texas, Denton, TX 76207

EDUCATION

Doctor of Philosophy in Electrical Engineering
(Minor in Business Management) January 2018 - Current
Department of Electrical Engineering, College of Engineering
University of North Texas, GPA: 4.0/4.0

Master of Science in Electrical Engineering January 2015 - January 2017
Tandon School of Engineering
New York University, GPA: 3.71/4.0

Bachelor of Science in *Automation of Honors Program* September 2010 - June 2014
College of Information and Electrical Engineering
China Agricultural University, GPA: 3.53/4.0

SKILLS AND INTERESTS

Interests	Control Theory, Non-linear Control, Robotics, Modeling and Simulation, Machine Learning, Deep Reinforcement Learning, Distributed Opimization, Connected Autonomous Vehicles.
Design Software	MATLAB, Python, TensorFlow, PyTorch, Java, C++, Embedded C, Linux, Assembly Language, Robot Operating System, V-Rep

PROJECTS

Applying Q-Learning to a 4 × 4 Tic-Tac-Toe March 2018 - April 2018
Major Project as a part of curriculum

· Reinforcement learning is essential for applications where there is no single correct way to solve a problem. In this project, I show that reinforcement learning is very effective at learning how to play the game Tic-Tac-Toe, despite the high-dimensional state. The agent is not given information about what the blocks or grids look like - it must learn these representations and directly use the reward and Q-values to develop an optimal strategy. The Q-agent uses basic Q-Learning algorithm, and shows that it is able to achieve super-human performance.

Mathematical Modeling and Analysis of a Hydro-pneumatic Suspension Column of a Car July 2015 - October 2015
Minor Project as a part of curriculum

· Modeled a 2-DOF system considering sprung and unsprung mass of the vehicle
· Performed sensitivity analysis to minimize the displacement of sprung and unsprung mass caused by vehicle hitting a bump using Transfer Function approach
· The settling time and displacement of the system were decreased using Hydro-pneumatic suspension system

Design and Thermal analysis of Disk Brake Rotor using ANSYS March 2016
GT Motorsports,a Formula Student Team of GTU

· Applied Energy Equation to calculate theoretical data for the input of simulation
· Devised boundary conditions for modeling the system by calculating including Heat power and Heat flux
· A Static thermal analysis in ANSYS Workbench using real time boundary conditions to obtain temperature distribution of Brake Rotor

Design, Development and Analysis of Exhaust System and Muffler assembly Sept 2015 - Jan 2016
GT Motorsports,a Formula Student Team of GTU

· Design and Development of complete muffler assembly for the reduction of noise under 110 dBC as per the rulebook
· Modeling and Acoustics analysis of muffler assembly in ANSYS to determine the Transmission Loss
· A CFD analysis of Exhaust Manifold using ANSYS Fluent to optimize the exhaust gas flow

RESEARCH PUBLICATION

Junfeng Wu, **Shengjun Zhang**, Tao Yang, Ling Shi, Hong Wang, *"Distributed Economic Dispatch over Networks with Markovian Communication Losses"*, the 37th Chinese Control Conference(CCC) **Accepted**. April 2018

INTERNSHIP/TRAININGS

Automotive Industry Simulation Internship,
Expertshub,Sinhgad Institute of Engineering, Pune June 2015
Machining and Quality Control of Forged Connecting Rods,
Amul Group of Industries, Rajkot February 2015

POSITION OF RESPONSIBILITY

CAE and Powertrain Lead, Formula SAE August 2015 - Present
GT Motorsports,a Formula Student Team of GTU

· Devised the design objectives and validation of designs through simulations and testings
· Concentrated on real time simulation of Exhaust System and the noise reduction of Exhaust system
· Part of core Design group in the team helping with various design decisions
· Performed numerous simulations of various components of the car in the area of FEA and CFD segments with documentations

Head coordinator of Mechanical section at Robotics club July 2015 - May 2016
Sanjaybhai Rajguru College of Engineering

· A college level Robotics club established by students with the aim of learning and professional skill development among students and peers
· Lead in Mechanical work of Robotics club, working mostly with CAD and Hardware systems
· Team leader and active member working to develop various robots of different concepts and configurations

EXTRA-CIRRUCULAR

- STTP on **Life Long Research** under TEQIP-II, SVNIT, Surat February 2016
- Participated in **Formula Student India**, An International FSAE competition,
  Secured 9th rank overall & 4th in Endurance January 2016
- Seminar on **Introduction to Robotics and Arduino Programming**, SRCOE,Rajkot July 2015
- **Junkyard**, BRIZINGER'15, a National Level Techfest, GEC, Rajkot March-2015
- Seminar on **Rapid Prototyping**, COGNIZANCE 2K14, a National Level Technical Festival,
  CSPIT, Charotar September-2014
- **Rise of Machine**, PRAKARSH 9.0, a National Level Technical Symposium, SVIT, Vasad March-2014

DECLARATION

I hereby declare that all the details furnished above are true to the best of my knowledge and belief.