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.

H_∞ Control — March 2016 - May 2016
Major Project as a part of curriculum

· H_∞ control is a method that could reduce modeling errors and unknown disturbances in a system, while providing quantifiable optimization of large scale multi-variable problems. I implemented both of bisection algorithm and the algorithm based on Algebraic Riccati Equations to solve H_∞ control problems.

UGV Integrated Mobile Platform — January 2016 - May 2016
Control/Robotics Research Laboratory Project

· Modeled the UGV integrated mobile platform and simulated it via V-rep.
· Implemented SLAM and control algorithms on the integrated mobile platform to make the UGV run and avoid obstacles automatically.

Simulating Katana and a Wall Following Vehicle via V-rep — March 2015 - May 2015
Major Project as a part of curriculum

· Model Katana robot arms, which has 4 revolute joins in V-rep.
· Simulated using Katana robot arms picking up an object from a desk and put it down to a different spot smoothly.
· Simulated a simple vehicle with a distance sensor and a force sensor follows a wall automatically.

Temperature Control System for Nucleic Acid Isolation and Purification Device
January 2014 - June 2014
Graduation Project

· Determined the adoption of sectionally closed-loop control model after analyzing heating power and heat dissipated power; enabled the system to maintain required temperatures; designed control circuit to collect and adjust temperature and communicated with the upper computer; completed the control software by C language.

"Freescale" Intelligent Car
October 2012 - June 2013
"Freescale" Intelligent Car Competition

· Designed different modules according to features of each component and integrated these modules together; applied PID algorithm and Kalman Filter to control and adjust the PWM duty ratio to make the car upright and manipulate the speed of the two direct-current motors as a way to handle direction.

License Plate Recognition Based on Matlab
October 2012 - December 2012
Major Project as a part of curriculum

· Dealt with the received images by grey processing and median filter, and proceeded edge extraction by Roberts operator; extracted the plate numbers and carried out binarizations and corrections, and then charactered segmentation and normalization processing; adopted templates matching OCR to recognize the numbers.

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

Electrical Engineer Internship,
Tellon Trading, Inc. Maintaining network and optimizing cost estimates   January 2017 - December 2017
Electrical Engineer Internship,
Tianjin OuYa Instrument Co., Ltd   July 2014 - December 2014

AWARDS AND CERTIFICATIONS

- College of Engeering Dean Tuition Scholarship   March 2018
- Toulouse Graduate School Scholarship   March 2018
- Courera Course Certifications of **Machine Learning** (License: NNBCAXYFA2HK)   July 2016
- The second prize in the Physics Experiment Competition of colleges in Beijing   March 2012
- The third-class scholarship for excellent academic performance   2012
- The second-class scholarship for excellent academic performance   2011

EXTRA-CURRICULAR

- Participated in **Texas System Day**   April 2018
- Member on **USAPL**   January 2018
- Participated in **UNT Powerlifting Team**   January 2018
- Volunteer for **Haidian District of Beijing Disabled Persons Federation**   April 2012
- Volunteer for **Sun Village Orphan Asylum**   March 2011

DECLARATION

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