Suyang Xu

Tel: (917) 420-4262
Email: xsy88888888@outlook.com
788 Columbus Ave. Apt. 9T, New York, NY, 10026

EDUCATION

Zhejiang University, College of Electrical Engineering — Hangzhou, CN
Bachelor of Science in Information Engineering — 09/2013-06/2017
Summer Research Program at **University of Michigan-Ann Arbor** — 07/2016-10/2016
Columbia University, School of Engineering and Applied Science — New York, NY
Master of Science in Electrical Engineering — 09/2017-12/2018

RESEARCH EXPERIENCES

Data-driven Localization Method of a Moving Source in Underwater
Undergraduate Researcher, Advisor: Dr. Hangfang Zhao — 11/2016-06/2017
- Conducted literature review for knowledge building in terms of acoustic theory, matched field processing, and matched mode processing
- Employed Kraken mode program to predict underwater acoustic transmission loss and effective detection- range
- Compiled algorithms and made a comparison between experimental tests and numerical simulation

Microdrone Localization based on Extended Kalman Filtering
Undergraduate Researcher, Advisor: Dr. Darren McKague and Dr. Dean Aslam — 07/2016-10/2016
- Generated a prediction about localization and statue of flying object based on Kalman filtering
- Modified the code to fit different sensors' rate and fuse different sources of data for the same state
- Added barometer data to the Kalman filtering for a more accurate altitude estimation
- Converted raw GPS data to UTM system and dealt with different sample rates of sensors' data
- Program microcontroller from Texas Instrument to run our program

Design of Intelligent Adaptive Traffic Light Control System based on Image Recognition
Undergraduate Researcher, Advisor: Dr. Haoji Hu — 06/2015-05/2016
- Used background subtraction algorithms based on Gaussian Mixture Model to realize the moving object detection and performed the blob analysis
- Employed the Kalman Filter for tracking multi vehicles in a continuous state space
- Built an unfixed-cycle real-time traffic light monitoring model for multiple connected intersections
- Tested the performance, stability and robustness of the traffic light model by MATLAB and made improvements according to the flaws

SELECTED PROJECTS

Smart Assistant Coach for Fencers — 02/2018-05/2018
- Use Kinect and Intel Edison with IMU sensors to capture fencer's body movements
- Do further processing on movement data and give feedback to users
- Develop a visualization windows program with C# base on the Kinect SDK

Convex optimization application on portfolio problem — 02/2018-05/2018
- Modeling investigation portfolio problem as a convex optimization problem
- Use modern convex optimization solver to get results

Composing Music with Recurrent Neural Networks — 10/2017-12/2017
- Use Tensorflow to build a biaxial RNN (recursive neural network) with LTSM (long term short memory) cells
- Train the neural network with classical music dataset then let it compose music

Stock Prediction Based on Statement Report — 10/2017-12/2017
- Collect stock market statement reports using web crawler written with Python
- Train a neural network with data collected and do predictions

Serial communication interface software development — 08/2016-09/2016
- Use Visual C++ to develop a serial communication windows program on Windows
- Process command and response to and from between device and host using string processing

HRM (heart-rate monitor) circuit & software design and debug — 08/2015-09/2015
- Use infrared LED and sensor to collect blood flowing signal from human finger
- Use operator amplifier making a low band pass filter to process signal
- Program micro-processor to calculate the heart rate

INDUSTRIAL EXPERIENCE

Huawei Technology Company, Intern — 06/2018-08/2018
- Develop module system test framework and test cases for virtualization platform — Hangzhou, CN
- Learning modern computing virtualization technology such as KVM (kernel-based virtual machine)
- Locate and fix 2 bugs on the libvirt module

China Shipbuilding Industry Corporation (CSIC), Intern — 08/2015-09/2015
- Assisted in measuring the transducers' impedance — Hangzhou, CN
- Employed the polar statistics method to improve phase measuring stability and accuracy of transducer-impedance detection when phase is almost zero

SKILLS

- Software: Visual Studio, MATLAB, Pspice, Keil, CCS, Altium, ModelSim, Quartus, Xilinx ISE
- Tool & Framework: Hadoop, Spark, Tensorflow, CUDA, OpenCL
- Programming Language: C/C++, MATLAB, Verilog HDL, ASM x86, Python