Zhiyang Liu

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Available May 2018 - December 2018

Education

Northeastern University Boston, MA — Expected May 2019
Master of Science in Computer Engineering — GPA: 4.0/4.0
Courses: Machine Learning and Pattern Recognition, Computer Vision, Robotics Sensing&Navigation, GPU Programming, Fundamentals of Computer Engineering(Algorithms)

Beijing University of Posts and Telecommunications(BUPT) Beijing, China — Aug 2013 – June 2017
Bachelor of Engineering in Computer and Information Engineering — GPA: 3.5/4.0
Courses: C++ Programming, Data Structures, Script Programming, Software Testing, Web Application Development, Embedded Operating System, Micro-processor and Interface Technology, Probability Theory and Mathematical Statistics, Digital Signal Processing, Fundamentals of Information Theory, Computer Networks, Pattern Recognition and Applications

Technical Skills

- **Programming Languages:** C/C++, C#, Python, Java, PHP, JavaScript, Matlab, SQL, Bash
- **Development:** Computer Vision, ROS Development, MySQL & SQL Server, CUDA Programming, Web Development

Internships

PricewaterhouseCoopers China Beijing, China — Mar 2017 – June 2017
C#, Python, SQL Server, Tableau, MDX

- Processed the multidimensional financial data on SQL Server. Used C# to build analytical add-ins for Excel.
- Participated in database structure optimization. Used NumPy to do data analysis.

Systems Engineering Research Institute, CSSC Beijing, China — Jul 2016 – Aug 2016
C++, Qt

- Used C++ to develop the control system on board. Used Qt to design the GUI of the software.
- Designed the communication protocol, including intra-ship communication and inter-ship communication.

Projects

Computer Vision Project Northeastern University — Sept 2017 – Dec 2017
Matlab, Target Tracker, Motion Detection

- Applied derivative filter and Optical Flow method to detect motions in a sequence of pictures.
- Aligned the images in a mosaic by detecting SIFT features. Reconstructed a 3D scene by uncalibrated stereo rectification.
- Applied Circulant Matrix tracker with occlusion detection(improved by Hankel Matrix) to track the target.

Winner prediction system Northeastern University — Jan 2018
Python, Bayes Classifier, K-means

- Used K-means to cluster players and used Bayes Classifier to decide the team which are more likely to win.

Tester for HCHO Measurement Innovation & Entrepreneurship Program, BUPT — Nov 2015 – May 2016
Lua, Android, NodeMCU, Alibaba Cloud, MQTT

- Led a 3-member team, designing a Intelligent and Portable Tester for Formaldehyde Concentration Measuring.
- Developed MCU. Programmed a system for the data transmission between sensors and chips, chips and cloud servers.

Instant Messenger BUPT — Jul 2016
Python, PyQt, MQTT

- Developed an Instant Messenger based on MQTT protocol with Python. Used Qt as the GUI framework.
- Realized text, selfie, audio, video compression and transmission, and real-time conversation with very low latency.

Course Management System BUPT — Nov 2016 – Dec 2016
PHP, MySQL, JavaScript, BootStrap, Alibaba Cloud

- Provided registration, course search, courses adding and dropping , grades updating, grade search and announcement sending for student and faculty. Set an administrator who can create, access, update or delete any user's account.

Miscellaneous

- Volunteered to teach in Camellia School of Kolkata and in St'Athony School of Jalpaiguri in India for 40 days.
- Led a 6-member team organizing an international volunteer program in Beijing, China.