

# 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 Design and Development, Embedded Operating System, Micro-processor and Interface Technology, Fundamentals of Information Theory, Digital Signal Processing, Principals of Communications, 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, Embedded development

## 👤 INTERNSHIPS

**PricewaterhouseCoopers China** Beijing, China Mar 2017 – June 2017  
C#, Python, SQL Server

- Used C# to process the multidimensional financial data on SQL Server. Participated in system testing work.
- Participated in database structure optimization. Used Python to do data analysis and data prediction.

**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

- 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.

**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

- 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.

**3D Reconstruction** ANT Lab, BUPT May 2016 – Jul 2016  
C++, Android, OpenGL ES

- Assisted in developing an APP with the function of 3D reconstruction of the human face. Applied LSD-SLAM algorithm.

## ♥ MISCELLANEOUS

- Volunteered to teach in Camellia School of Kolkata and in St'Athony School of Jalpaiguri in India for 40 days.
- Led a 3-member team organizing an international volunteer program in Beijing, China.