

# Hengyue Liu

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- EDUCATION** *Master of Science, Electrical Engineering (Multimedia and Creative Technologies)*  
**University of Southern California**, GPA: 3.83/4.0 Dec. 2016  
*Bachelor of Science, Telecommunications Engineering with Management*  
**Beijing University of Posts and Telecommunications**, GPA: 85.6/100 Jun. 2014
- TECHNICAL SKILLS** *Languages & Libraries & Frameworks:*  
C/C++, Matlab, Python, Java, Lua, Ruby, HTML, Javascript, L<sup>A</sup>T<sub>E</sub>X;  
OpenCV, Torch, CUDA, dlib, Boost, OpenMP, OpenGL, Python-NLTK, Python-scikit-learn;  
Docker, AWS Elastic Beanstalk, AWS S3, Redis.  
*Software:* Photoshop, AutoCAD, 3D Studio Max, After Effects, Unity 5.1.
- EXPERIENCE** *Research & Software Engineer Intern* May 2016 - present  
**CloudSight Inc**, Los Angeles
- Implemented a circular object recognition algorithm with accuracy higher than 95% and recall higher than 90%.
  - Implemented a large-scale image retrieval system with parallel Bag of Words matching and inverted file structure.
  - Implemented an image sentiment evaluation algorithm/text classification through Convolutional Neural Networks with the test performance 95.9%.
- Research Assistant, advised by Yan Shi* May 2013 - May 2014  
**BUPT**, State Key Laboratory of Networking and Switching Technology, Beijing
- Simulated with imported map data of city Koln and real O/D matrices of local vehicles via software SUMO.
  - Implemented pathfinding algorithms for large-scale vehicular network, and analyzed related VANET topological metrics in C++ from over 7 Gigabytes simulation dataset.
- Software Engineer Intern, advised by Yongqiang Lyu* July 2013 - September 2013  
**Tsinghua University**, Research Institute of Information Technology, Beijing
- Implemented the disease prediction web service interfaces of the project "Community Health Care Cloud Platforms" in Java.
  - Assisted in testing web pages of the online user platform over 80 hours.
- COURSES & PROJECTS** *EE 660 Machine Learning from Signals: Foundations and Methods*
- Matlab and Python programming of regression/classification problems, ranking top 5% of Kaggle competitions including house price regression and crime classification.
- CSCI 576 Multimedia Systems Design*
- C++ programming and OpenCV utilization, including compression&distribution algorithms, ego-centric video processing (fast indexing, summarization, stabilization), industrial multimedia pipelines, Multimodal analysis of media, stereoscopic and holographic display.
- EE 586 Advanced DSP Design Laboratory*
- Embedded C programming of Tetris Game on DSP processors, including Ostu's binarization, morphological operations, Moore-Neighbor tracking, k-curvature pinpoint, Kalman filter, etc.
- EE 569 Introduction to Digital Image Processing*
- C++ and Matlab programming, including the implementations of: texture classifiers & SVM, structured-edge, morphological processing and shape matching, Optical Character Recognition, the snake algorithm and level-set algorithm.
- CSCI 574 Computer Vision*
- C++ programming and OpenCV utilization, including SIFT & RANSAC object matching, Structure from Motion, K-means clustering, Bag of Features Object Recognition, neural networks.
- AWARDS** COMAP 2013 MCM Meritorious Winner.  
2011, 2012, 2013 1<sup>st</sup>-class college scholarship at BUPT.  
2010 National Tri-Merit Student, China.