

Ming-Chang (Eric) Chiu

<http://charismaticchiu.github.io/> • +1 702-209-6629

ericchiu0721@gmail.com • <https://www.linkedin.com/in/eric-chiu> • <https://github.com/charismaticchiu>

INTERESTS

My personal interests are in combining computer cognition, machine learning and high-performance computing

EDUCATION

University of Southern California (USC) Los Angeles, CA

Master (M.S.) in Electrical Engineering Aug 2016 – May 2018 (Expected)

- Areas of Specialty: Data Science, Digital Signal Processing

National Tsing Hua University (NTHU) Hsinchu, Taiwan

Bachelor of Science (B.S.) in Computer Science & Electrical Engineering Sep 2011 – Jun 2015

- Last 60 GPA: 4.05 / 4.30, Cumulative GPA: 3.82 / 4.30

University of Minnesota Twin-Cities, MN

Exchange Student in Computer Science and Engineering Fall 2014

- Introduction to Intelligent Robotics (A), Advanced Programming Principles (A)
- Cumulative GPA: 4.0 / 4.0, 15 credits

Tsinghua University Beijing, China

Summer Exchange Student in Computer Science Summer 2012

RESEARCH PROJECTS

The World is Changing: Finding Changes on the Street Feb 2015 – Sep 2015

Under supervision of Prof. Min Sun, Visual Science Laboratory, NTHU

- Constructed image change detection model in MATLAB, successfully detected street view mismatches in Dash camera images with respect to preprocessed Google Street View (GFV)
- Applied RANSAC to re-outline the areas of mismatches in the original GFV images with accuracy outperforming baseline by 46%
- Devised a reusable manual labeling software and data types that recorded ground truth mismatch areas

Re-scheduling Computing Job on Large-Scale System Jul 2013 – Aug 2014

Under supervision of Prof. Jerry Chou, Large-Scale System Architecture Laboratory, NTHU

- Applied Hadoop benchmark (HiBench) to test performance of processing different types of computing job on heterogenous cluster using Perl
- Designed testing environment settings using Linux BASH shell scripts and analytically found suitable disk for certain computing job types
- Applied machine learning algorithm on Linux resource usage to discern types of computing and then moved the data to either Hard Disk or Solid-State Disk to proceed

ACADEMIC PROJECTS

Movie Recommender Mar 2015 – Jun 2015

- Implemented and tested 3 collaborative filtering algorithms in Python and utilized MovieLens database to recommend movies
- Back-end analysis system deployed on AWS EC2, enabling the recommender to regularly update recommendations by checking new user preferences
- Created front-end webpage using jQuery, AJAX and Bootstrap

Dictionary Search Engine [Github](#) Feb 2015 – Apr 2015

- Implemented PageRank algorithm for Apache Hadoop in JAVA and constructed a search engine which prioritizes relevant links
- Coded under scalable MapReduce framework on 8-node distributed computers allowing massive dataset to be processed
- Devised file system database retrieval function by applying Apache Hbase and Hive

Autonomous Robotic Convoy System Design [Github](#) Oct 2014 – Dec 2014

- Proposed an algorithm that allows rovers to move toward one and only one target even when doing sharp turns using C++
- Utilized ultrasonic sensor to detect object distances and translated information into 2D surface using gnuplot
- Devised a paradigm to discern the original moving object while multiple static and moving objects are present

Remote Control Car [Github](#) Apr 2014 – Jun 2014

- Designed flip-flop circuit that controls electric current and connects power, RF dongle, and embedded controller; manipulated controller behavior in Python
- Developed a Smart Phone application in JAVA using Bluetooth Low Energy to transmit control signal

Midnight Radio: A Shared Online Radio Platform [Github](#) Apr 2014 – Jun 2014

- Developed front-end webpages using jQuery, AJAX and Bootstrap featuring user/administrator portal, chatting room, music play list, etc.
- Built back-end user upload system, administrator supervision function, and music information database in PHP and MySQL

One-on-one Chinese Chess Game Aug 2012 – Sep 2012

- Designed graphical user interface and implemented the rules of the game with Qt (C++)
- Applied C++ Internet thread programming which allows users to play through Internet connection

PUBLICATIONS

K.-T. Chen, M.-C. Chiu, F.-E. Wang, J.-T. Lin, F.-H. Chan, Min Sun, "The World is Changing: Finding Changes on the Street," submitted to *Asian Conference on Computer Vision (ACCV) 2016*

PROFESSIONAL EXPERIENCE	Broadsound Corporation , Jupei City, Hsinchu, Taiwan. Intern <ul style="list-style-type: none"> Completed full-stack production process of a Wind Gauge, including product design, supply chain analysis, assembling, calibrating, testing, and exporting Developed part of their all-in-one ProCheck software (featuring ultrasound probe calibration, testing, and data collection) which became a major revenue source Final profit generation: About \$100K 	Jul 2013 – Sep 2013
TECHNICAL SKILLS	Languages: C/C++, MATLAB, Ocaml, Java, Python, HTML/CSS, PHP, SQL, BASH, Javascript, \LaTeX , Technologies: Hadoop, AWS, Git, jQuery, Linux, Spark	
ACADEMIC HONORS & AWARDS	Selected as the only Honorary Member of Phi Tau Phi Scholastic Society in the department Awarded Excellent Study Group Award, NTHU Awarded National Tsing Hua University International Exchange Scholarship; Amount: \$10K	2015 2015 2014
CAMPUS ACTIVITIES	NTHU Orchestra , National Tsing Hua University Vice President Student Council , National Tsing Hua University Counselor	 Jul 2012 – Jun 2013 Jul 2012 – Jun 2013
OTHER WORK EXPERIENCE	Republic Of China (Taiwan) Army Compulsory Military Service	Sep 2015 – Aug 2016
REFERENCES	<p>Professor Min Sun National Tsing Hua University Department of Electrical Engineering Email: sunmin@ee.nthu.edu.tw</p> <p>Professor Jerry Chou National Tsing Hua University Department of Computer Science Email: jchou@cs.nthu.edu.tw</p> <p>Professor Stergios Roumeliotis University of Minnesota, Twin Cities Department of Computer Science and Engineering Email: stergios@cs.umn.edu</p>	