

Ming-Chang (Eric) Chiu

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EDUCATION

University of Southern California (USC) Los Angeles, CA
Master (M.S.) in Electrical Engineering (Data Science) Aug 2016 – May 2018 (Expected)
National Tsing Hua University (NTHU) Hsinchu, Taiwan
Bachelor of Science (B.S.) in Computer Science & Electrical Engineering Sep 2011 – Jun 2015
• Selected as the only honorary member of Phi Tau Phi Scholastic Society in the department
• Last 60 GPA: 4.05 / 4.30 Cumulative GPA: 3.82 / 4.30
University of Minnesota Twin-Cities, MN
Exchange Student in Computer Science; GPA: 4.0 / 4.0, 15 credits Fall 2014

SKILLS

Languages: C/C++, MATLAB, Ocaml, Java, Python, HTML/CSS, PHP, SQL, BASH, Javascript, MIPS, \LaTeX
Technologies: Hadoop, AWS, Git, jQuery, Linux, Spark, Open CV

WORK EXPERIENCE

Republic Of China (Taiwan) Army Sep 2015 – Aug 2016
Compulsory Military Service
Broadsound Corporation Hsinchu, Taiwan
Intern Jul 2013 – Sep 2013
• Completed full-stack production process of a Wind Gauge, including product design, supply chain analysis, assembling, calibrating, testing, and exporting
• Developed part of all-in-one ProCheck software in C (featuring ultrasound probe calibration, testing, and data collection) which became a major revenue source
• Final profit generation: About \$100K

RESEARCH PROJECTS

The World is Changing: Finding Changes on the Street Feb 2015 – Sep 2015
• Constructed image change detection model in MATLAB, successfully detected street view mismatches in Dash camera images with respect to preprocessed Google Street View (GVF) to provide updated information
• Applied RANSAC to re-outline the areas of mismatches in the original GVF images with accuracy outperforming baseline by 46%
• Devised a reusable manual labeling software and data types that recorded ground truth mismatch areas to help data collection
Re-scheduling Computing Job on Large-Scale System Jul 2013 – Aug 2014
• Automated Hadoop benchmark (HiBench) to test performance of processing different types of computing job on heterogeneous 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 and so reduce power consumption

PROJECTS

Movie Recommender Mar 2015 – Jun 2015
• Implemented and tested 3 collaborative filtering algorithms in Python and utilized MovieLens dataset 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 for visual effect
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 for dictionary content retrieval by applying Apache Hbase and Hive
Autonomous Robotic Convoy System Design [Github Demo](#) 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 as human computer interface
• Devised a paradigm to discern the original moving object while multiple static and moving objects are present
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

PUBLICATIONS

“The World is Changing: Finding Changes on the Street,” submitted to *Asian Conference on Computer Vision (ACCV) 2016*