Ming-Chang (Eric) Chiu

http://charismaticchiu.github.io/ • +1 702-209-6629
mingchac@usc.edu • https://www.linkedin.com/in/eric-chiu • https://github.com/charismaticchiu

EDUCATION

University of Southern California (USC) — Los Angeles, CA
Master (M.S.) in Electrical Engineering (Data Science) — Aug 2016 – May 2018 (Expected)
- Mathematical Pattern Recognition; Deep Learning and Computational Intelligence

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
- Cloud Programming (A); Computer Graphics (A); Numerical Analysis (A)
- 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
- Introduction to Intelligent Robotics (A); Advanced Programming Principles (A)

SKILLS

Languages: Python, MATLAB, C/C++, Ocaml, Java, SQL, BASH, Javascript
Technologies: Hadoop, AWS, Git, jQuery, Linux, Spark

WORK EXPERIENCE

Republic Of China (Taiwan) Army — Sep 2015 – Aug 2016
Led physical and mental training sessions and proposed smartphone usage regulations

Broadsound Corporation — Hsinchu, Taiwan
Intern — Jul 2013 – Sep 2013
- Produced product 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
- Generated about $100K with teammates

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 (GFV) to provide updated information
- 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 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

LEADERSHIP

NTHU Orchestra, Vice President; **NTHU Student Council**, Counselor — Jul 2012 –Jun 2013

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*