

Ming-Chang Chiu

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INTERESTS	My interests are in computer cognition, robotics, machine learning and high-performance computing. I am interested in understanding scene details, predicting possible outcomes (if in dynamic) and predicting human reaction. The best case is proposing an end-to-end model capable of accomplishing multiple tasks.	
EDUCATION	University of Southern California (USC) , Los Angeles, California, USA	
	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 Electrical Engineering and Computer Science	Sep 2011 – Jun 2015
	• Last 60 GPA: 4.05 / 4.30, Cumulative GPA: 3.82 / 4.30 (Excluding credits at University of Minnesota)	
	University of Minnesota , Twin-Cities, Minnesota, USA	
	Exchange Student in Computer Science and Engineering	Sep 2014 – Dec 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	Aug 2012 – Sep 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, successfully detected street view mismatches in Dash camera images with respect to 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 scalable distributed system	
	• Analyzed and found suitable disk for certain computing job type	
	• Applied machine learning algorithm on Linux resource usage to discern types of computing and then move the data to appropriate disk to proceed, either on Hard Disk or Solid-State Disk	
APPLICATION PROJECTS	Movie Recommender	Mar 2015 – Jun 2015
	• Implemented 3 common recommendation methods and utilized MovieLens database to recommend movies	
	• System built on Amazon AWS platform which enables to process millions of data in a short time	
	Basic Dictionary Search Engine	Feb 2015 – Apr 2015
	• Implemented PageRank algorithm to construct a search engine which prioritizes the related links given a keyword	
	• Coded under scalable MapReduce framework on 8-node distributed computers having storage/retrieval functions	
	Autonomous Robotic Convoy System Design	Oct 2014 – Dec 2014
	• Proposed an algorithm that makes rovers to recognize only one moving object without getting distracted	
	• Utilized ultrasonic sensor to detect object distances and devised a paradigm to discern the original moving object	
	Remote Control Car	Apr 2014 – Jun 2014
	• Circuit design connecting motors, batteries, and embedded controller	
	• Developed a Smart Phone application that uses Bluetooth Low Energy to remotely control a toy car	
	Midnight Radio: A Shared Online Radio Platform	Apr 2014 – Jun 2014
	• Developed front-end web pages including fancy user/administrator portal, chatting room, music list, etc.	
	• Built back-end user upload system, administrator supervision function, and music information database	
	One-on-one Chinese Chess Game	Aug 2012 – Sep 2012
	• Designed graphical user interface and realized the rules of the game with Qt (C++)	
	• Applied Internet Programming so people can connect through Internet to play.	
PUBLICATIONS	K.-T. Chen, <u>M.-C. Chiu</u> , F.-E. Wang, J.-T. Lin, F.-H. Chan, Min Sun, “The World is Changing: Finding Changes on the Street,” submitted to <i>Asian Conference on Computer Vision (ACCV) 2016</i>	

PROFESSIONAL EXPERIENCE	Broadsound Corporation , Jupei City, Hsinchu, Taiwan. Intern Jul 2013 – Sep 2013 <ul style="list-style-type: none"> Completed full-stack production process of a Wind Gauge, including product design, system analysis, assembling, calibrating, testing, and exporting Developed part of their all-in-one ProCheck software (including probe calibration, testing, and data collection) which became one of their major revenue source Final profit generation: About \$100K
TECHNICAL SKILLS	C/C++ (Qt), MATLAB, Ocaml, Java, Python, PHP, Javascript, AWS, MySQL, LaTeX LaTeX, Scala, R
ACADEMIC HONORS & AWARDS	Selected as only one Honorary Member of Phi Tau Phi Scholastic Society in the department 2015 Awarded Excellent Study Group Award, NTHU 2015 Awarded National Tsing Hua University International Exchange Scholarship; Amount: \$10K 2014
CAMPUS ACTIVITIES	NTHU Orchestra , National Tsing Hua University Vice President Jul 2012 – Jun 2013 Student Council , National Tsing Hua University Counselor 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>