

# SHIH-MING WANG

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## Education

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**Ph.D., Computer Science**, University of California, Santa Cruz (GPA:3.96/4.0) Sep. 2016-Present

**M.S., Computer Science**, National Taiwan University (GPA:4.21/4.3) Sep. 2012 - June 2014

**B.S., Electrical Engineering**, National Taiwan University Sep. 2008 - June 2012

## Publication

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**Wang, S. M., & Ku, L. W.** (2006). ANTUSD: A Large Chinese Sentiment Dictionary.

**Wang, S. M., Tung, Y. F., & Yu, T. L.** (2014, July). Investigation on efficiency of optimal mixing on various linkage sets. In 2014 IEEE Congress on Evolutionary Computation (CEC) (pp. 2475-2482). IEEE.

**Wang, S. M., Wu, J. W., Chen, W. M., & Yu, T. L.** (2013, July). Design of test problems for discrete estimation of distribution algorithms. In Proceedings of the 15th annual conference on Genetic and evolutionary computation (pp. 407-414). ACM.

## Research Experience

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**Machine Learning Research Assistant, Academia Sinica**, Taipei, Taiwan Aug. 2015 - July 2016

- **Lightweight Discourse CNN Model for Sentiment Analysis**
  - Proposed a new CNN model incorporating the knowledge of discourse rules (e.g contrast and concession) and the learning ability of the deep neural network.
  - Performed experiments on several well-known sentiment analysis datasets (e.g. Stanford Sentiment Tree-bank) showing the simplicity and effectiveness of the proposed model.
- **Sensing Emotions in Text Messages**
  - Supervised on the project aiming to build a system that automatically conveys the emotion of received text to enrich the context in computer mediated communications.
  - Built sentiment classifiers from LiveJournal posts with pre-trained word embedding as features.
- **Augmented NTUSD**: Built a Chinese sentiment dictionary containing polarity information of words for use of research on sentiment analysis. Designed experiments to test the applicability of the dictionary.

## Teaching Experience

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**Teaching Assistant, University of California, Santa Cruz** Sep. 2016 - present

- Assisted with course: Introduction to Programming in Python (CMPS 5p), Algorithms and Abstract Data Types (CMPS101), Advanced Programming (CMPS 109), Comparative Programming Languages (CMPS 112)
- Conducted weekly lab sessions
- Provided individual and small group instruction during office hours
- Graded homework & exams

**Teaching Assistant, National Taiwan University** Sep. 2013 - June 2014

- Assisted with courses in Probability and Statistic, Algorithm, Genetic Algorithm
- Gave review lectures with designed problems
- Graded homework & exams

## ACHIEVEMENT & AWARDS

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**Fellowship**, University of California, Santa Cruz Jan. 2017 - Mar. 2017

**Teaching Assistantship**, University of California, Santa Cruz Sep. 2016 - present

**Travel Grant of Domestic Graduate Attending International Symposiums**, Ministry of Science and Technology, Taiwan Sep. 2014

**Teaching Assistantship**, National Taiwan University Sep. 2013 - June 2014

- Available to top 10% of graduate students.

## Projects

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**Keraflow**: Personal open source project implementing a deep learning library on top of **Theano** and **Tensorflow**. Redesigned the popular deep learning library Keras with the same utility but a simpler architecture aiming for easier development for package developers and clearer core dump for package users.

**vim-netranger**: Personal open source project. A ranger-like system/cloud storage explorer plugin for Vim, bringing together the best of Vim, ranger, and rclone.

**Recommendation System on Yelp Data** Course project for Machine Learning class (UCSC). Implemented (using only scipy & numpy) a hybrid collaborative filtering model combining neighborhood model and factorization model, trained by batch gradient descent.

**Chinese OCR**: Course project for the OCR contest in Machine Learning class (NTU). Implemented algorithms including naive Bayes, support vector machine, neural network. **ChenLianYen**(Javascript): Course project implementing a web-based RPG game, where the user can control the role to explore the map and attack monsters on the map.

## Extracurricular

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Swimming Team of Medicine School, National Taiwan University 2012-2014

- Finisher, 1.25 miles open water swimming

Taichung City Alumni Club, National Taiwan University 2008-2011

- Deputy Director of Activity Group
- Convener of summer camp for freshman

## Skills

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**Programming Language**: C/C++, Java, Python, R, MATLAB, Javascript

**Machine Learning Libraries**: scipy, scikit-learn, Stanford CoreNLP, Keras, Theano, tensorflow

**General**: Git, neovim, pandas, matplotlib **Foreign Languages**: Chinese (native), Taiwanese (intermediate)