

Chih-Wei Chang

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<https://github.com/lazywei>

Education

Carnegie Mellon University, School of Computer Science

Pittsburgh, PA

M.S. Computational Data Science (MCDS) - Analytics Track

Expected Dec. 2017

- Relevant Courses: Machine Learning with Large Dataset, Search Engine, Intermediate Statistics

National Taiwan University

Taipei, Taiwan

B.S. Mathematics (CS related GPA: 3.91/4.30, Last 60 GPA: 3.87/4.30)

June 2015

- Relevant Courses: Advanced Topics in Multimedia Analysis and Indexing, Topics in Machine Learning, The Design and Analysis of Algorithms, Introduction to Scientific Computing, High Dimensional Statistical Analysis and Machine Learning

Experience

Co-founder & CTO, Yoctol Info, Taipei, Taiwan

July 2014 - July 2015

Yoctol provides data analysis consulting across industries including advertising, social media, and computer hardware.

- Designed and built the entire data infrastructures, including servers, automated testing and deployment environment with CircleCI and Docker, RESTful APIs with Rails, and front-end web interfaces with ReactJS.
- Co-developed internal automated machine learning analytics tools.

Full-stack Web Developer (intern), Codementor, Taipei, Taiwan

July 2014 - July 2015

Codementor (codementor.io) provides on-demand one-to-one online help in software development.

- Implemented various APIs on Heroku for both web interface and mobile; developed real-time online chatroom with Rails, ReactJS, and AngularJS.
- Independently built a mobile app with React Native.

Back-end Web Developer (intern), Polydice, Inc., Taipei, Taiwan

Feb. 2013 - July 2014

Polydice operates iCook (icook.tw), the largest recipe-sharing social website in Taiwan, with 1,200,000 active users.

- Revised internal auto deployment and scaling system with Chef and Amazon Web Services (AWS).
- Implemented service-oriented architecture and on-demand dynamic image resizing in Go.

Research Assistant, Computational Learning Lab, NTU

Feb. 2014 - Aug. 2015

Predicting dropouts in MOOC (ACM KDD CUP 2015)

Advisor: Prof. Hsuan-Tien Lin

- Contributed to feature generation and base models tuning in blending stage.
- Studied the relationship between RankBoost and Area-Under-Curve optimization, which resulted in the novel algorithm "Rank-Gradient Boosting Machines".

Top-down Tree with Boosting on cost-sensitive multi-label classification

- Designed an efficient boosting algorithm for multi-label classification with arbitrary costs.
- The algorithm integrates the key ideas of AdaBoost from binary classification, Classifier Chain from multi-label classification, and Filter Tree from cost-sensitive classification.

Research Assistant, Computational Optimization and Linear Algebra Lab, NTU

Feb. 2014 - Aug. 2014

- Combined machine learning with high performance scientific computations including leveraging the Support Vector Machines (SVMs) in parameters selection of generalized minimal residual method for linear systems.

Teaching Assistant, Machine Learning Course, NTU

Fall 2014

Selected Open Source

Mockingbird: Language classifier augmentation for Linguist

GitHub, Google Summer of Code 2015

- Reduced memory usage and eliminated possible memory leak by rewriting the classifier from Ruby to Go.
- Implemented Go wrapper for LIBLINEAR C library to enable the use of different linear classifiers such as Logistic Regression and Linear SVMs; the wrapper source is released as "LIBLINEAR (Go wrapper)".

Ruby and Rails benchmark system on Docker

Ruby on Rails, Google Summer of Code 2014

- Built a long-running benchmark system for both Rails and Ruby; the system utilized Docker for an independent and parallelizable benchmarks running environment.

Scikit-Learn: Implemented multi-label classification related algorithms.

GoLearn: Designed the earliest library structures and interfaces as a core contributor.

LIBLINEAR (Go wrapper): Built Go wrapper for LIBLINEAR, a library for large linear classification.

Skills

Language: Python, Ruby, Go, JavaScript, C/C++, UNIX shell script, R, Haskell

Tools: AWS, Chef, Ansible, Docker