Zhiyan Foo

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Experience

Quantcast Singapore

Software Engineering Intern *March 2017 - July 2017*

The Company: Quantcast uses big data to target advertisements at an online audience.

The Projects

- Primarily worked on RTBconf, an ETL (Extract, Transform, Load) Django App that took data from heterogeneous sources, and sorted them into an internal file format (protobuf).
- Improved performance of the sharder: Cut down CPU time from around 18 minutes to around 13 minutes.
  - Abstracted complex business logic as a graph and then implemented efficient graph traversal algorithms to perform the original business logic.
  - Used indirection to reduce memory usage and number of sorts needed to shard blacklisted and whitelisted domains.

Singapore Armed Forces Singapore

Conscript – Army *Feburary 2015 - Feburary 2017*

PROGRAMMING SKILLS

Languages – **Proficient:** python (5+ years). **Familiar:** Haskell, C, Java, Racket, LaTeX.

Tech/Frameworks – Git, *Nix, Django, numpy.

Projects

crunch-shake: A python library that evaluates scripts on the Bechdel Test and other similar metrics. Source Code : `github.com/zhiyanfoo/crunch-shake/`.

Additional Coursework

Real Analysis, Convexity and Optimization Harvard Extension School

Upper-division pure math course focused on optimization problems with convex sets, normed infinite-dimensional vector spaces, and convex functionals.

Learning From Data Caltech Telecourse

Introductory Machine Learning course focused on mathematical rigor. Machine Learning algorithms built from scratch include Percepton with Stochastic Gradient Descent, hard-margin Support Vector Machines and Logistic Regression. For hard-margin SVM, an external convex optimization package was used.

Source Code : `github.com/zhiyanfoo/caltech-machine-learning/`

Algorithms on Strings Coursera, University of San Diego

String compression and search algorithms e.g. Suffix Trees, Burrows-Wheeler Transform and Knuth-Morris-Pratt.

Complete list of additional coursework done can be found at `zhiyanfoo.github.io/learning/`.

Extracurriculars

Haskell Club Founder (`haskelluw.com`). Captain of Intramural Futsal Team (Casual level). Dungeons and Dragons.