Joel Choo

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EDUCATION

IMPERIAL COLLEGE LONDON
MRes Advanced Computing
Sept 2016
Distinction

CARNEGIE MELLON UNIVERSITY
BSc Computer Science
Minor in Math
May 2015
GPA: 3.80
University Honors

RESEARCH

IMPERIAL COLLEGE LONDON
Sep 2015 - Sep 2016 | London, UK

Supervisor: Giuliano Casale
Analyzing Closed Multiclass Queueing
Networks with Fork-Join Constructs

Supervisor: Ruth Misener
Investigating the Feasibility of Solving the
Quadratic Assignment Problem using
Quantum Computing

COURSEWORK

COMPUTER SYSTEMS
- Compilers
- Scalable Distributed Systems Design
- Intro to Computer Systems

MACHINE LEARNING
- Advanced Statistical ML and Pattern Recognition
- Intelligent Data and Probabilistic Inference

THEORY
- Complexity Theory
- Probability and Computing
- Graph Theory
- Game Theory
- Algorithm Design and Analysis
- Separation Logic

MISC
- Software Development for Social Good
- Ethics and Policy Issues in Computing

EXPERIENCE

GOVERNMENT TECHNOLOGY AGENCY SINGAPORE
Assoc Software Engineer
Nov 2016 – Current | Singapore
- Beeline,
  - Implemented major redesign of the site
  - Refactored the frontend code base (AngularJS, SCSS) for improved maintainability
- data.gov.sg, Singapore's open data portal
  - Implemented dataset uploads using S3 instead of uploading to the compute server. Also extended the dataset uploading plugin to allow asynchronous uploads
  - Improved the development process - created a 2 step local build, reducing time spent setting up the local development environment
  - Heavily involved in a complete refactor of the whole code base
- Data engineering + Search
  - Ingested data from a legacy system into Elasticsearch
  - Designed a new data model based on user needs
  - Built a Google-esque front-end for users to search
- Recruiting
  - Revamped the recruitment process - from haphazard interviewing to proper documentated process and started data collection on interviews
- Teaching
  - Conducted git workshops for the rest of the division
  - Organized monthly sharing sessions for team members to learn from other team members

CARNEGIE MELLON UNIVERSITY
Teaching Assistant
15-112 Fundamentals of Programming and Computer Science
Fall 2013 - Spring 2015 | Pittsburgh, PA
- Co-taught weekly recitations of CS concepts to 20-25 students
- Volunteered regularly for large ($\approx$100 student) reviews + optional lectures
- Selected to tutor the weakest 20 students, helping more than 80% of them to move from a failing to passing grade
- Mentored students for their final term project
- Rated 1/40 in Spring '15 semester with a 5/5 rating by students
  - "He's really good at making sure you understand the concepts"
  - "I've worked with A LOT of fantastic CA's over the last few weeks and in my opinion Joel is the absolute best CA. You are very lucky to have him on staff."
  - "Very helpful, friendly, eager, good at explaining concepts, comfortable speaking in front of large crowds during lectures"

INFOCOMM DEVELOPMENT AUTHORITY SINGAPORE
Software Engineering Intern
Summer 2014 | Singapore
- Worked on implementing web and mobile analytics for various government agencies
- Created a prototype for an A/B Testing platform for the government