Khoa Q.D. Tran

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EXPERIENCE

Software Engineer — March 2015 - Present
Autodesk, Inc. — Manager: Mike Haley

Undergraduate Student Instructor — August 2014 - December 2014
UC Berkeley, EECS Department — Supervisor: Professor Anant Sahai

- Taught one biweekly recitation section and (tried to) inspire students with Discrete Math & Probability Theory
- Led the development of programming and simulation assignments in IPython, also known as "virtual labs"
- Spearheaded the "oral exams", which tested students' understanding of the material in an interview-style format

Intern - Distributed Computation on the Design Graph — June 2014 - August 2014
Autodesk, Inc. — Manager: Mike Haley

- Automated the Design Graph data pipeline using open source batch scheduler software
- Implemented a bag-of-features model to classify design data from Autodesk's Inventor 3D CAD
- Clustered high-dimensional design data and visualized them in 2D to better understand the clusters

Research Apprentice — February 2014 - August 2014
UC Berkeley, Haas School of Business — Faculty Sponsor: Professor Heather Haveman

- Collected price, product, and public discourse data for the Bitcoin and vintage wine markets via web scraping
- Analyzed and tested hypotheses and models on the emergence of product categories

Reader — January 2013 - May 2014
UC Berkeley, EECS Department — Supervisor: Professor Anant Sahai

- Graded weekly problem set and offered feedback to 600+ students in Discrete Math & Probability Theory
- Collaborated with TAs and other Readers to assist students in weekly office hour and on online discussion forum
- Wrote shell scripts, tutorials, and lab solutions to make grading faster and more efficient

Computer Science Intern — June 2013 - August 2013
Ocean Tomo, LLC — Supervisor: Dr. Matthew Beers

- Reduced time to perform a "conflict check" by 50% by implementing the Conflict System in Play Framework 2
- Created interactive visualizations and reports with D3.js using data extracted from an Access database
- Automated full-text patent scraping and applied text mining techniques to find similar patents
- Researched and experimented with natural language processing algorithms to enhance the Patent Ratings system

NOTABLE PROJECTS

contract.js - `https://github.com/mkjois/contractJS` — JavaScript, NodeJS

- A library that allows developers to write traditional JavaScript programs with tests read like documentation and enforce contracts on code, based on Python's `doctest module`.

bearRec - `bearrec.herokuapp.com` — Python, Flask, Pattern

- A service that allows Berkeley students to search for classes related to topics they are interested in

FTES - `nbviewer.ipython.org/gist/kqdtran/d380a9b88b3affa7cfeb` — IPython, Graph API

- Analyzes Facebook feeds to find similar posts and most popular topics with the Natural Language Toolkit

TECHNICAL SKILLS

Languages

- *Most experienced with*: Python, Julia, Java, Matlab, Bash Scripting
- *Familiar with*: HTML, CSS, JavaScript, Scala, Go, C, C++, SML, Racket, R, SQL, LaTeX

Software

- *Operating Systems*: Ubuntu, Mac, Windows
- *Frameworks & Libraries*: Play 2, Flask, jQuery, D3.js, Spark, Python's Data Science toolbox
- *Other Tools*: Git, SVN, Mercurial, Heroku, Vagrant, Android, AWS, Visual Studio, Eclipse, IntelliJ, Emacs

EDUCATION

University of California, Berkeley — Fall 2012 - Fall 2014
Bachelor of Arts, Computer Science. In-major GPA: 3.40
Relevant coursework: Data Structures, Algorithms, Database, Computer Security & Networking, Machine Learning