David Fan

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Education

Princeton University **September 2015- May 2019**
B.S.E in Computer Science, Certificate in Statistics and Machine Learning GPA: 3.7/4.0
Relevant Courses: Algorithms/Data Structures, Big Data/Machine Learning, Functional Programming, Networks, Inform. Security, Programming Systems, Logic Design, Probability + Stochastic Systems, Reasoning about Computation, Statistics, Linear Algebra

Experience

Software Engineering Intern **Summer 2018**
Amazon

Software Engineering Intern **Summer 2017**
Phosphorus
- Redesigned management portal and implemented custom UI/UX components in admin dashboard using Wicket and Scala.
- Created distributor preference/permission scoping model in Scala, Spring Boot, Hibernate, and Postgres SQL.
- Helped configure elastic load balancers and auto scaling groups on AWS, and wrote Cloud Formation Templates.

Research Intern **Summer 2016**
Harvard-MIT HST Program
- Developed web tool for visualizing geographic trends in AETNA insurance and US Census data using R and MySQL.
- Contributed to open-source client-side web application (http://pklab.med.harvard.edu/jean/ubit2/index.html).

Leadership

Codirector **2017 - current**
HackPrinceton (hackprinceton.com)
- Princeton's biannual hackathon hosts over 1,100 students from around the world each year. In 2016, I was an organizer and now, I am the head director for HackPrinceton Fall 2017 and Spring 2018. I manage a team of 30 organizers and a budget of $150,000.

Cofounder and Director **2016 - 2017**
Princeton University Science Olympiad (scioly.princeton.edu)
- 800 of the USA's top high school students compete at the annual Princeton University Science Olympiad invitational tournament.
- Led a team of 10 students, 100 volunteers, and founded this campus group from scratch. Coordinated the writing of 23 events.

Projects

TigerTexts
Consolidates book pricing information from multiple sources and offers third-party seller platform. Built for Princeton students.
Link: https://tigertexts.io/about
Technologies Used: Node.js, Express, React, Redux, MongoDB, Scrapy

Lyff
Enables user to call a Lyft ride with just a phone call. Won **"Best Use of Vonage/Nexmo API Prize" at PennApps Fall 2017**.
Link: https://github.com/akashlevy/Lyff
Technologies Used: Python, Nexmo API, Google Maps API, Amazon Lex, Amazon Lambda, Lyft API

UBiT2
Open-source client-side web app for visualization and analysis of RNA-seq and qPCR data. Computation done entirely in browser.
Link: http://pklab.med.harvard.edu/jean/ubit2/index.html
Technologies Used: JavaScript (JQuery, D3), HTML5/CSS3 (Bootstrap)

Skills

Programming Languages
- Java
- Python
- OCaml
- C
- Go
- Javascript

Web Development
- HTML
- CSS
- Meteor.js
- Django
- Flask
- Node.js

Data Science
- R
- SQL
- AWS
- Machine learning

Frameworks and Tools
- React
- D3
- Wicket
- Hibernate
- Unix
- Git

Publications

[3] UBiT2: a client-side web-application for gene expression data analysis.
[2] Heart-specific Rpd3 downregulation enhances cardiac function and longevity. *Aging, 7*(9), 648-660. doi:10.18632/aging.100806
[1] Topological defects as relics of emergent continuous symmetry and Higgs condensation of disorder in ferroelectrics. *Nature Physics, 10*(12), 970-977. doi:10.1038/nphys3142

Awards

Princeton Innovation Magazine 25 Under 25 **February 2016**
Intel Science Talent Search Semifinalist **January 2015**