Jonathan Fung

jonfung@berkeley.edu • (408) 680 3399
jonfung.me • linkedin.com/in/jonfung1 • github.com/jonfung

Education

University of California, Berkeley — 8/16-5/20 (exp)

- B.S. Electrical Engineering and Computer Sciences
- Departmental GPA: **4.0/4.0** / Overall GPA: 3.96/4.0 (Dean's Honors List)
- Regents' and Chancellors Scholarship Recipient (Top 2% of Incoming Class)
- Relevant Coursework:

• Data Structures	• Discrete Math, Probability Theory	• Algorithms
• Multivar Calc	• Circuits, Control Theory, Basic Filter	• Machine Architecture
• Linear Algebra	• Discrete Time Signal Processing	• Signals and Systems

Skills

- Java, Python, Javascript, Matlab, Cypher/Neo4j Graph, Parse Server, Node.js, NumPy/SciPy

Experience

Software Engineering Intern @ Trimian, Inc. — 5/17-8/17

- Wrote cron jobs to refactor the **Neo4j** graph database using the **Cypher Query** language, **Javascript,** and **NodeJS.** Experimented with Neo4j graph traversal methods to create a personalized onboarding system for a more streamlined user experience.
- Created and deployed internal admin dashboard that analyzes live user data extracted from **Parse Server.** Wrote API endpoints, **HTML/CSS/Handlebar** templates, and created a database table schema to store resulting information in Parse server entries.
- Implemented in-app-purchases through Adobe PhoneGap, Javascript, Ionic.

Software Developer @ Berkeley Codebase — 8/17- present

- Creating a backend/UI for UC Berkeley's automated phone systems with local startup Visimenu. Designing **MySQL** database schema to store phone data models.
- Building a **Facebook chatbot** interfacing with a **NodeJS server** hosted on **GCP** with a **Flask** server logic layer designed to traverse graph infrastructure kept in database.

Research Intern @ Stanford University Radiology Dept. — 5/14-8/16

- Devised and conducted independent research project on **self-assembling nanoparticles.**
- Assisted with lab group research projects and the execution of a week long nanoparticle summer camp for visiting students.
- Published papers in **Journal of Nuclear Medicine & ACS Nano**, gave multiple poster presentations.

Publications & Projects

mp3-fft — Headphone recommender using fourier transform on music — 7/17

- Application that takes mp3 files and recommends 100+ headphones based on price, form factor, and music sound signature (bass-heavy, neutral, mid-forward, v-shaped).
- Uses the **Fourier Transform and Welch's method** to generate a power spectral density estimation of the song and classify sound signature. site: jonfung.me/mp3-fft

Ethos — Chrome extension that reports bias in articles via IBM Watson — 9/16

- Winner of **CalHacks 3.0 Best Social Impact Hack**
- Analyzes articles for their level of objectivity or bias using NLP from the IBM Watson API. Author's past article data is compiled, gauged, and cached in a server to determine overall author bias. **Real-time Facebook scraper** that analyzes newfeed articles while scrolling through a news feed. src: jonfung.me/ethos

Synthesis, Characterization and Biomedical Applications of a Targeted Dual-Modal NIR-II Fluorescence and Photoacoustic Imaging Nanoprobe — 7/17

- To be published with Zhen Cheng, Kai Cheng in ACS Nano. Under Peer Review.

Dual-Modal NIR-II Fluorescence and Photoacoustic Imaging of Thyroid Carcinoma Using EGFR-targeted Donor-Acceptor Chromophore Based Nanoprobes — 5/16

- Published with Kai Cheng in Journal of Nuclear Medicine paper: bit.ly/2mBhSBp

Surface Specific Rationally Self-Assembling Au-Fe Oxide Nanoparticles: A Potential Multi-Modal Imaging Agent Platform for Early Tumor Diagnosis — 5/14-8/16

- Independent Research Project posters: bit.ly/2o4W9CW