

# JACK CHAU

nchau01@tufts.edu | (617) 653-9290 | Medford, MA 02155 | <https://jackchau.net/>

## EDUCATION

---

### Tufts University

Bachelor of Science in Computer Science and Applied Mathematics  
United World College Scholarship Recipient

**Expected 2022**

Medford, MA

- Relevant coursework: Computational Design, Data Structures, Algorithms, Cloud Computing, Software Engineering in Java, Urban Computing, Machine Structure and Assembly Language Programming, Distributed Systems, Machine Learning, Real Analysis 1
- GPA: 3.73, Dean's List

## SKILLS

---

- **Programming:** C, C++, Java, Python, Perl, MATLAB, Mathematica
- **Web Development:** JavaScript, NodeJS, HTML, CSS, Bootstrap, MongoDB, RESTful APIs, cloud infrastructure (AWS, Hadoop, Hive)
- **Other:** Git, Perforce, ElasticSearch, TensorFlow, Linux, Apache Spark, Microsoft Office, Unit Testing, Agile Development (Jira)

## EXPERIENCE

---

### Software Engineering Intern

athenahealth, Inc.

**May. 2020 – Present**

Watertown, MA

- Optimize SQL queries to increase Permission Engine API's performance and reduce latency by ~10%, allowing function calls to exceed 150 million calls per day (most called function at athenahealth)
- Engineer an Analysis Dashboard for the Security Development Team which incorporates Permission Engine Metrics and ElasticSearch, resulting in in-depth understanding of risk levels across both development and production
- Conduct threat modeling for new products to identify vulnerability and enforce stricter security protocols
- Participate in Agile development and conduct code reviews to ensure correct compliance with PHI/HIPAA

### Lead Software Engineer

Textbook Exchange Network

**April. 2020 - Present**

Boston, MA

- Streamline dataflow between front-end and back-end to allow scalability by rebuilding systems that handle textbook browsing
- Design algorithms to suggest textbook pricing by processing data from Google Books API and incorporating different regression models
- Establish the expansion of current network to peer schools (Princeton and Duke)
- Facilitate code reviews between team members to ensure higher code quality

### Funded Research Fellow (Software Development)

Department of Urban and Environmental Studies

**Aug. 2019 – Present**

Medford, MA

- Design and leverage current infrastructure to interact with various geo-data APIs, refining understanding of users' mobility within the US from processing over 200G of data
- Utilize Hadoop and Spark to find significant patterns that help improve land use, financial flows, and growth near transit locations
- Optimize and monitor running code on Tufts High Performance Computing Cluster to prevent over-querying

## PROJECTS & EXTRACURRICULARS

---

- **TextbookExchangeNetwork:** A platform for students to share and exchange textbooks across both the US and UK. Currently handling between 6,000-8,000 active transactions worth over \$100,000 (*Django, JavaScript, ReactJS, Heroku, CircleCI*)
- **DiningTracker (Tufts Hackathon Medalist – Google Cloud Award):** A web-app that advises its user on dining options based on their daily caloric intake and food availability. Currently implemented into Tufts Server (*Python, Google Cloud Platform, Google Datastore, RESTful APIs*)
- **UrbanismX (Published):** A proprietary platform that visualizes data of people's commuting habits in urban areas. Currently being implemented in a research project on urban planning (*Python, ReactJS, KeplerGL*)

## LEADERSHIP

---

### Freshmen Residential Advisor

First-year Assistant

**May. 2019 – Present**

Medford, MA

- Mentor freshmen throughout the entire year
- Initiate community activities that help acclimate freshmen to life at Tufts
- Correspond with the Residential Life to ensure a supportive and healthy community on campus