

# JACK CHAU

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## EDUCATION

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### Tufts University

*Bachelor of Science in Computer Science and Applied Mathematics*

*United World College Scholarship Recipient*

- 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

**Expected 2022**

*Medford, MA*

## SKILLS

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- **Programming:** C, C++, Java, Python, JavaScript, Perl, SQL, Matlab
- **Web Development:** NodeJS, HTML, CSS, MongoDB, MySQL, cloud infrastructure (AWS, Hadoop, Hive)
- **Other:** Git, Perforce, Elasticsearch, TensorFlow, Unix, Unit Testing, Agile Development (Jira)

## EXPERIENCE

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### Software Engineering Intern

*athenahealth, Inc.*

**Jun. 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*

**Dec. 2019 – Jun. 2020**

*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
- Facilitate code reviews between team members to ensure higher code quality

### Funded Research Fellow (Software Development)

*Department of Urban and Environmental Studies*

**Aug. 2019 – May. 2020**

*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

### Summer Intern

*Lawrenceville School*

**Jun. 2019 – Aug. 2019**

*Princeton, NJ*

- Develop MERGE, an interactive web app to help visualize classroom discussion and students' interactions
- Co-teach a class in Computer Programming for middle and high schoolers

## PROJECTS & EXTRACURRICULARS

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- **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

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### Freshmen Residential Advisor

*Tufts University*

**May. 2019 – Present**

*Medford, MA*