

# JUSTIN D ZHAO

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## EDUCATION

### Johns Hopkins University

Baltimore, MD

Intended Majors: BS Computer Science (Primary), Applied Mathematics and Statistics (Secondary) Expected Graduation: May 2023

- **GPA: 3.8/4.0 (Dean's List Fall 2019)**
- **Relevant Coursework:**
  - **Completed:** Calculus III (**Multivariable**), Data Structures (**Java**), Intermediate Programming (**C/C++**), Discrete Mathematics, Linear Algebra, Computer System Fundamentals (**C, C++, x86-64**), Differential Equations and Applications, Introduction to Data Science (**Python**), Introduction to Optimization, Introduction to Probability, Automata and Computation Theory, User Interfaces and Mobile Applications (**Android, Java**), Object Oriented Software Engineering
  - **Current:** Artificial Intelligence, Introduction to Algorithms, Introduction to Statistics, Operating Systems

## PROFESSIONAL EXPERIENCE

### Amazon

Seattle, WA

Software Development Engineer Intern

May 2021 – August 2021

- Worked on the Hardlines Customer Experience (HCX) team under the Effortless Shopping Team
- Improved their “Ask And Assist” widget by removing decision paths that led to no-results to the customer
- Built a solution using Amazon Web Services (AWS) Lambda, Cloudwatch, Cloud Development Kit (CDK), Simple Queue Service (SQS) and DynamoDB that made offline calls to Amazon Search APIs to update the database and remove paths leading to no results

### Johns Hopkins University

Baltimore, MD

Course Assistant for Gateway Computing: Java (EN.500.112)

August 2020 – May 2021

- Worked as a course assistant for the Johns Hopkins University spending 10 hours a week teaching programming principle to undergraduate students alongside other course assistants and professors
- Held office hours for 2 hours a week to provide a more personal, one-on-one help experience to students

### Johns Hopkins University Information Security Institute

Baltimore, MD

Research Assistant in the Laboratory of Dr. Anton Dahbura

March 2020 – Present

- Research assistant in a lab that creates machine learning algorithms for predicting optimal results in sports games as per contracts by professional teams
- Worked on a project to fashion a baseball pitch-grading algorithm that would also create visuals depicting an inputted pitch quality against a professional MLB pitch

## PROJECTS

### Johns Hopkins University Timesheets

- Worked on a team of 5 to develop a web application that streamlines the process of submitting and approving timesheets for Course Assistants and Instructors at the Johns Hopkins University.
- Built with a PostgreSQL, ReactJS, Flask stack and deployed with Heroku at: <https://jhutimesheets-frontend.herokuapp.com/>.
- Created stunning React components that implemented the authentication process using Firebase.
- Interacted with backend database values to render dynamic graphs displaying single and multi-line graphs of Course Assistant hours using the ReactChartJS-2 framework.

### Multithreaded Network Calculator

- Implemented a calculator program in C/C++ that utilized telnet local hosts to communicate with clients by reading well-formed mathematic expressions and producing correct outputs including storing values of arbitrary variables
- Ensured consistency of variable values across multiple client connections through thread concurrency and thread synchronization utilizing pthread\_t variables and mutex locks and unlocks

## SKILLS

- **Language:** English (Native), Mandarin (Con conversationally Proficient), Spanish (Con conversationally Proficient)
- **Computational:** C, C++, Git, Heroku, Java, JavaScript, MySQL, Python (numPy, Pandas, sklearn), ReactJS, SQL

## LEADERSHIP EXPERIENCE

### Johns Hopkins University MedHacks

Baltimore, MD

Tech Team Member

March 2020 - Present

- Member of Johns Hopkins' premier Medical Hackathon that brings together motivated individuals from across the nation to the Johns Hopkins Medical Campus to work to solve the most pressing medical technology issues
- Implemented a back-up system that downloaded applicants information into a CSV file and utilized Amazon's AWS to store applicants' resumé's in W3 buckets
- Coded the backend of the MedHacks web application using Python environments and Django framework