DANIEL TAO

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EDUCATION

University of Pennsylvania, School of Engineering & Applied Science, Philadelphia, PA

Expected Major: Bachelor of Science in Networked and Social Systems Engineering (NETS) Expected May 2022

Coursework: Completed: Mathematical Foundations of Computer Science; Computer Science Through Program Design; Linear Algebra and Differential Equations; Introduction to Haskell; Data Structures and Algorithms; Crowdsourcing and Human Computation; Multivariable Probability. Expected: Artificial Intelligence, Machine Learning, Scalable Cloud Computing, Advanced Functional Programming, Software Design, Introduction to Blockchain, Introduction to Rust

College of Lake County, Grayslake, IL (**Dual Enrolled while in HS)** Ended August 2018

Relevant Coursework: Programming in C++

TECHNICAL EXPERIENCE

Software Engineering Intern, *Volley* (YC W18) May 2019 - August 2019

- Architected and developed an automated voice app testing framework, cutting hundreds of hours of manual testing from development
- Developed voice app dev console, accelerating voice app development by allowing developers to step through voice apps and inject state
- Built a continuous serverless monitoring tool, allowing issues with software in production to be detected within minutes instead of hours
- Worked with Javascript, React, Redux, AWS (Lambda, Cognito, API Gateway, DynamoDB, SNS), Mocha/Chai

Software Engineering Intern, *Knowt* (#1 on Product Hunt) March 2019 - May 2019

- Built user authentication, document syncing and importing features in React and AWS, allowing user notes to persist across platforms
- Implemented analytics on beta website and mobile app, tracking user engagement across features to inform future development
- Greatly refactored codebase to implement walkthrough and authentication features, making it more maintainable and expandable
- Worked with React, React Native, Javascript, AWS (Cognito, DynamoDB)

Software Engineering Intern, *EHC* June 2018 - August 2018

- Expanded payroll software to handle digital completion of state tax withholding certificates to support customers in all 50 US states
- Architected new modular code structure, allowing completion of a 3 month project within a week and speeding up future development
- Worked with customers to build appropriate backend endpoints and frontend features to meet their employee management needs
- Worked with C#, Javascript, Kendo, and MySQL

ACTIVITIES

Fullstack Software Engineer, Penn Labs, *University of Pennsylvania* Spring 2019 - Present

- Updated a Django web app for moderating user comments in preparation for adding user comments to the main site
- Built new routes enabling a complete frontend rewrite in React of a website, improving the user experience for its thousands of weekly users
- Extracted custom React components from existing code, facilitating code reuse, speeding up the aforementioned React rewrite
- Refactored API routes to serve data within a few SQL queries rather than thousands, reducing initial page load times drastically
- Worked with Python, Javascript, Django, React

Software Engineering Member, Penn Electric Racing, *University of Pennsylvania* Fall 2018 - Spring 2019

- Wrote and debugged code for custom PCBs and Desktop to track speed, temperature, tilt, and other parameters to analyze car performance
- Redesigned PER's proprietary serial protocol, reducing wasted bytes, allowing tracking of up to 3x more raw data than before
- Worked with C#, C++

PROJECTS

Tellr (*Capital One SES S19 Honorable Mention*)

- Tellr makes using the ATM more accessible for everyone, from the dyslexic to the elderly to the visually impaired
- Designed accessible, voice enabled mobile app, website, and virtual ATM mockup using React, React Native, and Express
- Constructed API endpoints connecting MongoDB Atlas and Google Cloud for voice recognition and user authentication features

MoodTunes (*BigRedHacks 2018*)

- MoodTunes generates a playlist of music based on the player's mood, as analyzed by a picture of their face
- Recruited 3 other developers in integrating Microsoft Azure Cognitive Services and Spotify through a Flask backend hosted on Google Cloud

LectureHub (*YHacks 2018 Wix Code Prize 2nd Place*)

- LectureHub is a website for students to help each other succeed in college by sharing notes, lectures, and other study materials
- Built backend for storing notes and other user data complete with authentication and user voting on content quality using Flask and AWS
- Coordinated a team of three other developers to integrate backend with JS frontend and Swift mobile app in under 36 hours

TeaBot (*HKN Best Mentor-Mentee Team*)

- Developed OpenCV solution using a depth camera for a robot which automates the labor-intensive tea picking process
- Ported existing Matlab kinematics code into Python and integrated kinematics and CV code together

TECHNICAL SKILLS

Java, Javascript, Python, C#, C++, Haskell, OCaml, Django, Flask, Express, React, Git, AWS