

EDUCATION |

University of Pennsylvania, School of Engineering & Applied Science - nets.upenn.edu

Expected Bachelors in **Networked and Social Systems Engineering (NETS aka *Hipster CS*)**

May 2022

TECHNICAL EXPERIENCE

Software Engineering Intern, **Pahdo Labs** - pahdolabs.com

Summer 2021

- ❖ Researched, designed and implemented state of the art latency-resilient MMO game engine and supporting distributed architecture
- ❖ Worked with Golang, Godot, Nakama

Software Engineering Intern, **Microsoft**

Summer 2020

- ❖ Wrote code designed to detect syntax errors and suggest code refactorings, enhancing the Visual Studio developer experience.
- ❖ Designed, developed and created integration tests for multiple static code analyzers targeting C#, VB and LINQ.
- ❖ Participated in customer calls and user testing, wrote official documentation describing analyzer functionality and configuration options
- ❖ Worked with C#, Visual Basic, Roslyn

Software Engineering Intern, **Volley (vc.wis)** - volleythat.com

Summer 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)** - knowt.io

Spring 2019

- ❖ Built user authentication, onboarding, cross-platform document syncing and importing features in React and AWS
- ❖ Implemented analytics on beta website and mobile app, tracking user engagement across features to inform future development
- ❖ Worked with React, React Native, Javascript, AWS (Cognito, DynamoDB)

Software Engineering Intern, **EHC** - encompassshc.com

Summer 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

Engineering Team Lead, **Penn Labs** - pennlabs.org/team/dtao

Spring 2019 - Like, right now

- ❖ Led team in porting websites to Next.js and Typescript, drastically improving website SEO, initial page load times and codebase maintainability
- ❖ Integrated membership functionality into club directory website, enabling hundreds of freshman to indicate interest in clubs during activity fairs
- ❖ Refactored API routes supporting a complete frontend website rewrite in React, improving the user experience for its thousands of weekly users
- ❖ Worked with Python, Typescript, Django, React

Software Engineer, **The Daily Pennsylvanian** - projects.thedp.com

Fall 2020 - Also right now

- ❖ Mentored developers in porting the newspaper's website to Gatsby and Typescript, modernizing the website design and codebase structure
- ❖ Designed subscribable GraphQL API linking a legacy PHP headless CMS, a React Native reader app, and the redesigned website
- ❖ Worked with Data Analysis team to collect, analyze and present data about the University of Pennsylvania as custom websites
- ❖ Worked with Typescript, React, Apollo, Google Cloud

Software Engineering Member, **Penn Electric Racing** - pennelectricracing.com

Spring 2019 (Not right now)

- ❖ 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 across the car CAN bus
- ❖ Worked with C#, C++

PROJECTS

Pennbook (Facebook Best of NETS 212 Prize) - pennbook.net

- ❖ Designed, built and deployed Facebook-like website from scratch complete with live post, comment and messaging notifications via websockets
- ❖ Leveraged best practices for website design including SEO, caching and SSR without relying on third-party packages like React or NextJS
- ❖ Setup Apache Spark daily cron job on AWS which generates friend recommendations for users from user friend graph data

LectureHub (YHacks 2018 Wix Code Prize 2nd Place) - devpost.com/software/lecturehub

- ❖ 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

Tellr (Capital One SES S19 Honorable Mention)

- ❖ Through UI design, Tellr makes using the ATM more accessible for everyone, from the dyslexic to the elderly to the visually impaired
- ❖ Co-developed/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

TeaBot (HKN Best Engineering Team) - devpost.com/software/teabot-e5dws

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

TECHNICAL SKILLS

Java, Javascript, Typescript, Python, C#, C++, Haskell, Rust, Ruby | Django, Flask, Express, React | Git, Jirachi, AWS

