

JONATHAN OPPENHEIMER

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EDUCATION

Purdue University – College of Science

Bachelor of Science in Computer Science, Minor in Political Science

West Lafayette, IN

August 2021 – December 2024

- Cumulative GPA: 3.86/4.00, 3x Dean's List, 3x Semester Honors
- Relevant Coursework: Data Structures and Algorithms, Systems Programming*, Computer Architecture, Programming in C, Object-Oriented Programming, Data Science Labs: Calculus, Discrete Mathematics, Multivariate, Linear Algebra* (*currently enrolled)
- Activities and Societies: Hack the Future, CERIAS, Purdue Outing Club

WORK EXPERIENCE

Purdue University – Elmore Family School of Electrical and Computer Engineering

Instructor of Record

West Lafayette, IN

December 2022 – May 2023

- Led lab section, coordinated materials, graded homework, and worked with section instructors to teach Data Science Labs: Calculus
- Course covered function sampling and approximation, numerical differentiation and integration, introductory Python programming, and data acquisition with microcontrollers and sensors

Space Ground System Solutions – Rapid Delivery/Antenna Services Team

Software Engineer Intern

Alexandria, VA

June 2022 – August 2022

- Served on an Agile team to produce synchronous client/server software packages for a remote ground antenna supporting ADS-B aircraft data, and NOAA polar orbiter satellite data from ground up; finished product spanned 10k+ LOC
- Implemented all client-server communications and complete command and control of antenna with NASA's GMSEC message architecture; achieved sub 100ms response times for 1500+ mile high-frequency message exchanges
- Wrote wrappers and documentation for 2 new message formats: GPS data, and antenna pointing angle transfer
- Developed custom driver for serial communications to an antenna rotator for remote, manual user control, and real-time satellite tracks

Glass House Recycling LLC

Founder/CEO

Falls Church, VA

February 2020 – Present (remote)

- Founded curbside glass-pickup business with brother at age 17 to meet demand after Falls Church City stopped providing municipal glass recycling service, later incorporated, set up customer accounts and mailing/billing with limited reliance on third-party services
- Leveraged digital advertising and print/radio media (NBC, WAMU, NowThis) to grow customer base to over 100 residential households; online stories about business reached 550k+ views, with 5k+ reactions
- Administered all business enterprises including expansion into commercial space, winning 'Best of Falls Church' award in second year

PROJECTS

Leadership Lafayette Storyboard – Hack the Future

React, Node.js, Mongoose

West Lafayette, IN

October 2021 – April 2022

- Developed an all-in-one testimonial submission tool for a local nonprofit, Leadership Lafayette, on a team of 8 working in an Agile environment throughout academic year. Site entered production in April 2022
- Converted design documents into client-facing testimony submission page, assisted with administrator dashboard development

My CS Plan – Hello World Hackathon

Next.js, Flask

West Lafayette, IN

September 2021

- Collaborated on a 4-person team during Purdue's 2021 Hello World Hackathon to create a web app that returned a minimum listing of classes to achieve multiple Purdue CS concentrations, given 2 user choices
- Designed and implemented front-end webpage, and interfaced with flask backend, making HTTP requests with user-selected tracks to fetch and display optimized course listings

Mustang Mug

Svelte, Node.js, Google Firebase

Falls Church, VA

April 2021 – August 2021

- Shared leadership of a team that designed, built, and deployed an online ordering web application for my high school's café, replacing a staff-intensive and inefficient Google form ordering system
- Used MySchoolBucks' API to provide payment options, and report sales to school's existing platform, hosted application on Firebase
- Included a user-facing store that wraps a point-of-sale system and an administrator configuration dashboard
- Wrote user documentation for students and school staff, and technical documentation for future student maintainers

OTHER INFORMATION

Languages:

Java, Python, C, HTML/CSS/JS, LaTeX, shell scripting (bash/sh)

Tools/Environments:

Git, GitHub/GitLab, Unix (RHEL 7/8, Raspbian, etc.), various web frameworks

Awards:

Eagle Scout, Purdue Department of Computer Science *Kunze* Scholarship

Certifications:

Active 'Secret' level security clearance, Purdue College of Science Intercultural Teamwork Certificate, NOCTI Computer Programming, NOCTI Advertising and Design