

Jonathan Oppenheimer

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Education

Purdue University – College of Science

Bachelor of Science in Computer Science, Minor in Political Science

Aug 2021 – May 2025

- Cumulative GPA: 3.90/4.00, Dean's List and Semester Honors
- Relevant Coursework: Data Structures and Algorithms, Compilers, Cryptography, Systems Programming, Computer Architecture, Discrete Mathematics, Linear Algebra, Statistical Methods (Graduate)
- Activities and Societies: Hack the Future, CERIAS, Purdue Outing Club

Experience

NASA Jet Propulsion Laboratory, *Software Engineer Intern*

Jun 2023 – Present

- Prototyped new extract transform load pipeline (ETL) for the Deep Space Network Service Quality Assessment (DSN SQA) subsystem, supporting DSN usage analysis for missions like the James Webb Space Telescope, Mars 2020, and Voyager
- Shifted on-premises scripts, triggers, logging, storage, and more to Amazon Web Services, achieving end to end performance for an ETL pipeline providing detail on the automatic provision of DSN equipment
- Assisted in Oracle database migration, resolved ETL script failures, and developed/documented new tools for ETL deployment

Purdue University – ECE Department, *Instructor of Record*

Dec 2022 – Dec 2023

- Led a lab section in two consecutive semesters, developed course content, graded homework, and worked with other section instructors to teach Data Science Labs: Calculus to very positive student evaluations
- Course covered function sampling and approximation, numerical differentiation and integration, introductory Python programming, and data acquisition with microcontrollers and sensors

Space Ground System Solutions, *Software Engineer Intern*

Jun 2022 – Aug 2022

- Produced synchronous client/server software packages for a remote ground antenna supporting ADS-B aircraft data
- 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 new message format wrappers and documentation for GPS data and antenna pointing angle transfers
- Developed custom driver for serial communications to an antenna rotator for user control, and real-time satellite tracks

Projects

Hack the Future, *Developer, Technical Director*

↳ **Latino Center for Wellness and Education**

Oct 2022 – Apr 2023

- Redeveloped and redesigned the Latino Center of Wellness and Education's site in React with a small team to ease publication of information and improve outreach with community

↳ **Leadership Lafayette**

Oct 2021 – Apr 2022

- Created all-in-one testimonial submission tool for a local nonprofit with administrator dashboard, converting design documents as an 8-person team

My CS Plan – Hello World Hackathon, *Developer*

Sep 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, *Developer*

Apr 2021 – Aug 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 and Firebase to provide payment options, and report sales to school's existing platform
- 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

Skills

- Java, Python, C/C++, HTML/CSS, JS/TS, SQL, LaTeX, shell scripting (bash/sh),
- Git, GitHub/GitLab, Unix (RHEL 7/8, Raspbian, etc.), React, Svelte, Oracle Database, Firebase, Flask, Node.js

Awards

- Purdue Computer Science Department *Kunze* and Boeing merit scholarships
- Eagle Scout