

JONATHAN OPPENHEIMER

610 North Oak Street
Falls Church, VA 22046

joppenhe@purdue.edu • github.com/JonathanOppenheimer • linkedin.com/in/jonathan-oppenheimer/

(703) 362-0215

EDUCATION

Purdue University – College of Science

Bachelor of Science in Computer Science, Minor in Political Science

West Lafayette, IN

August 2021 – May 2025

- Cumulative GPA: 3.90/4.00, 4x Dean's List, 4x Semester Honors
- Relevant Coursework: Data Structures and Algorithms, Compilers*, Cryptography*, Systems Programming, Computer Architecture, Discrete Mathematics, Linear Algebra, Statistical Methods (Graduate)* (*currently enrolled)
- Activities and Societies: Hack the Future (Technical Director), CERIAS, Purdue Outing Club

WORK EXPERIENCE

NASA Jet Propulsion Laboratory – Planning and Execution Systems (397)

Summer Internship Program (SIP)

Pasadena, CA

June 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, etc. to Amazon Web Services, using S3, Glue, CloudWatch, Step Functions and CloudFormation; achieved end to end performance for 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 – Elmore Family School of Electrical and Computer Engineering

Instructor of Record

West Lafayette, IN

December 2022 – December 2023

- Led two lab sections, developed content, 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

- 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 wrappers and documentation for 2 new message formats: GPS data, and for antenna pointing angle transfer
- Developed custom driver for serial communications to an antenna rotator for remote, manual user control, and real-time satellite tracks

PROJECTS

Hack the Future – Leadership Lafayette and Latino Center of Wellness and Education

React, Node.js, Mongoose, Typescript

West Lafayette, IN

October 2021 – April 2024

- Created an all-in-one testimonial submission tool for a local nonprofit, Leadership Lafayette, in an 8-person development team for '21-'22; converted design documents into client-facing testimony submission page, assisted with administrator dashboard development
- Redeveloped and redesigned the Latino Center of Wellness and Education's site for the easier publication of information and connection with community in React on a small team for '22-'23; focused scholarship and resources page

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/C++, HTML/CSS/JS, SQL, LaTeX, shell scripting (bash/sh)

Tools/Environments:

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

Awards:

Eagle Scout, Kunze Scholarship, Boeing Scholarship

Certifications:

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