JORDAN ISAACS

jisaacs@andrew.cmu.edu | https://jdisaacs.com | (425) 765-9139 | Seattle, WA

EDUCATION

B.S. Economics (Digital Economics Concentration), Minor Computer Science Graduate May 2023

Carnegie Mellon University (CMU), Pittsburgh, PA

- Skills: Python, Rust, C, R, SQL, Django, REST APIs, Linux, NixOS/Nix
- QPA 3.86 *Major*, 3.64 *Cumulative*

WORK EXPERIENCE

Software Engineering Intern – *SelfDecode*, Tel Aviv, Israel June 2021 - August 2021

- Designed and programmed a library that enables everyone from scientists to marketers to automatically sync any Django microservice data table to the analytics warehouse based on Delta Lakes with adherence to HIPAA and privacy laws.
- Used AWS S3 with a Databricks job to synchronize data from Django to Delta Lake tables as a work around for Django's inability to write directly to a Delta Lake eliminating the need for a locking mechanism.

Software Engineering Intern – *Indies Workshop*, Seattle, WA April 2019 - May 2019

- Programmed in Prolog a text-based adventure game and an accompanying bot that can play and solve the game.
- Developed in Python a Nintendo Store web scraper that built a database of over 4000 video games for market research. Used Selenium to load and simulate clicks on the web page to enable loading all the data.

Construction Safety Management Intern - *Port of Seattle*, Seattle, WA July 2018 - August 2018

- Evaluated contractors' safety plans and corrected safety violations on construction sites valued in total over $1 billion.

OPEN SOURCE PROJECTS

FastAPI Sessions – *Personal Project* April 2021 - Present

- Built and maintain a library that enables session authentication support for FastAPI, a Python framework for building APIs.
- Provide sensible built-in options such as signed cookies for storing session IDs along with a highly customizable ID extraction system, storage backend, and verification system to support user's needs.

Statue Identity Management – *Personal Project* May 2021 - Present

- Developing an identity management and authentication microservice that has per-identity vaults for storing client encrypted secrets. With vault contents hidden from the server, features such as end-to-end encryption are possible.
- Achieving this using a Rust based implementation of OPAQUE, a strong aPAKE method, as the authentication mechanism.
- Designing it to handle common user flows securely to prevent attacks like pre-login CSRF and account enumeration.

Natural Language Processing (11-411) – *CMU*, Pittsburgh, PA Spring Semester 2021

- Built a natural language system in Python that can generate coherent `Wh-` questions from a given Wikipedia article.
- Used Stanford CoreNLP for dependency parsing and NER. The system traverses the dependency tree with a variety of rules to extract the noun and verb phrases. Uses the phrases to create a Yes/No question and then NER to transform into `Wh-`

Fundamentals of Programming and CS Course (15-112) – *CMU*, Pittsburgh, PA Fall Semester 2019

- Programmed in Python a top-down ski game with a custom physics engine to simulate a ski hill and jumps, a tile system for efficient infinite maps, a parser so players can program custom maps, and a trick system to add some fun to the game.

LEADERSHIP

VP of Operations – *Undergraduate Consulting Club (UCC)*, CMU April 2020 - April 2021

- Ensured the online meetings for the UCC ran smoothly and our external events were marketed to the CMU community.
- Participate in career development activities such as internal case competitions and consulting workshops.

Panel Presenter – *National Youth Bike Summit* October 2017, February 2019

- Presented how to engage youth in bike organizations to 30 executives at the 2019 National Youth Bike Summit in New York.
- Led a panel on how to be a community bike advocate at the 2017 National Youth Bike Summit in Washington DC.

Board of Directors Voting Member – *Bike Works*, Seattle, WA September 2015 - June 2019

- Organized and led youth events, a multi-day bike tour, fundraising efforts, and local advocacy programs.
- Designated bike repair aide at bi-weekly youth bike-repair parties attended by 10-20 youth.
- Repaired hundreds of donated bikes over four years to give back to the community and became a certified bike mechanic.

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September 13, 2021

Dear Hiring Manager,

I am currently a junior at Carnegie Mellon University studying Economics with a concentration in Digital Economy and a minor in Computer Science. I am interested in pursuing the Software Engineering Intern position at Plaid. From authentication for frictionless payments to accessing loan data, working on any of Plaid's projects would be very fulfilling. Doing software engineering in the context of financial technology stands out due to my interest in backend engineering and the digital economy. I am confident I can gain useful experience and make a positive impact at Plaid utilizing my background in both computer science and economics.

This past summer, I was a Software Engineer intern at SelfDecode, a genomics technology startup. I worked on their backend utilizing Python, AWS, and Databricks to build a user-friendly system that syncs data automatically from their microservices to their data warehouse. This experience showed me the importance of working with stakeholders during the design stage. Before starting to code I talked with engineers, dev-ops, and scientists to determine what they all expected from the system. Those discussions gave me a clear understanding of the goals of the system and thus how I should design it. While building the system, I also encountered many real-world backend issues such as memory usage and the complexities of distributed systems which strengthened my system architecture skills.

Both inside and outside of work, I am self-motivated to solve problems that I encounter. My variety of open source projects attached to my resume show off the issues I have tackled. One project that I am proud of came about when I got frustrated with the disorder in my email inbox. I taught myself sieve, an email scripting language and created a system that utilizes regex and email aliases to automatically sort emails into folders. It illustrates that I am always willing to learn what is needed to solve an issue.

I would welcome the opportunity to discuss a future role contributing as an Software Engineering Intern at Plaid. I can be reached at jisaacs@andrew.cmu.edu and (425)-765-9139. Thank you very much for your time and consideration, and I look forward to hearing from you.

Sincerely,
Jordan Isaacs