Leo Berman

Computer Engineer

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Skills

- Python | C | C++ | HTML | Bash | Git | AWS | Docker | AVR Assembly Language | LaTex | AutoCAD | Excel

Experience

Software Engineering Intern **EZSoft Inc.** *Malvern, PA, USA* **05/2024 - 08/2024**

- Applying software engineering concepts to component-based software systems to automate large-scale industrial processes in the manufacturing industry
- Performing R&D on Information and Control systems for leading factories in pharmaceuticals, food/beverage, and specialty chemical companies
- Programming component-based software for PLCs (Programmable Logic Controller) using the ISA-88 and ISA-95 standards using a combination of scripting and ladder logic
- Designing state of the art HMI (Human Machine Interface) and SCADA (Supervisory Control and Data Acquisition) systems to streamline and simplify factory processes
- Investigated time-sensitive system failures responsible for a portion of 1-3 Billion Dollars using a combination of remotely connecting to systems as well as high pressure on-site visits

Webscraping Researcher **Temple University** *Philadelphia, PA, USA* **03/2024 - Current**

- Developing reusable Python scripts for scraping 10+ years of Business Development Company's (BDC's) filings from the SEC's (U.S. Securities and Exchange Commission) website
- Utilizing Python's Pandas, Beautiful Soup, Selenium, and Requests libraries to scrape over 30 Schedule of Investment (SOI) tables per company with an inconsistent format from 10-K and 10-Q forms
- Troubleshooting parsing dynamic websites for over 100 Megabytes of HTML per BDC with minimal help due to SEC's built in EDGAR (Electronic Data Gathering, Analysis, and Retrieval) Database
- Circumventing SEC prevention of web scraping tools using random user agent access

Particle Physics Researcher **Temple University** *Philadelphia, PA, USA* **05/2023 - 08/2023**

- Developed Python scripts to script signal emulation for fast FPGA emulators designed to replicate photons shot through a cathode tube in order to compensate for deadtime.
- Collaborated with physicists to reduce error rate to .042% for a portion of the MOLLER (Measurement Of Lepton Lepton Elastic Reaction) experiment
- Debugged WaveDump, an open-source data collection software written in C, to automate data entry from FPGA digitizers

General Engineering Intern **PennDOT** *King of Prussia, PA, USA* **05/2022 - 08/2022**

- Worked with an interdisciplinary engineering team to gather, process, and present data on the implementation of infrastructure projects
- Surveyed physical sites to assess MASH (Manual for Assessing Safety Hardware) compliance
- Documented checkpoints and data for efficient project tracking and management

Education

BS Electrical and Computer Engineering **Temple University** *Philadelphia, PA, USA* **08/2021 - 12/2024**

AWS Cloud Practitioner **Amazon** **Obtained 04/2024**

Technical Support Fundamentals **Google** **Obtained 07/2021**

Projects

- Command-Line Text Editor - Built a fork of Kilo's text editor and made novel functions such as cursor navigation macros and word lookup function
- Upcycling Treadmill to Web-Controlled Walk Pad (Writeup) - Created a web-controlled walk pad with an Arduino and a Raspberry Pi. Languages used include Arduino, Python, HTML, and JS
- Multivariate Gaussian Classifier (Writeup) - Implemented Bayesian decision making for a multivariate Gaussian classifier in Python. Utilized JMP and Scikit-learn to debug
- Small Business Website (Source Code) - Launched a website which included a scalable sourdough calculator in HTML and JavaScript to support my small business of selling baked goods

Mentorships

- **Science Fair Judge:** The Langley School | McLean Virginia
- **Mathematics/Physics Tutor:** Algebra | Calculus | Statistics | Elementary Classical Physics