



Leo Berman

Computer Engineer

[in LinkedIn](#) | [215-767-6705](#) | [Personal Site](#) | [leograntberman@gmail.com](#) | [GitHub](#)

Skills

• Python | C | C++ | HTML | Bash | Git | AWS | Docker | AVR Assembly Language | LaTeX | AutoCAD | Excel

Experience

- | | | | |
|---|---------------------------------|---------------------------------|--------------------------|
| Software Engineering Intern | <u>EZSoft Inc.</u> | <i>Malvern, PA, USA</i> | 05/2024 - 08/2024 |
| <ul style="list-style-type: none">• 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 | <u>Temple University</u> | <i>Philadelphia, PA, USA</i> | 03/2024 - Current |
| <ul style="list-style-type: none">• 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, BeautifulSoup, 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 | <u>Temple University</u> | <i>Philadelphia, PA, USA</i> | 05/2023 - 08/2023 |
| <ul style="list-style-type: none">• 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 | <u>PennDOT</u> | <i>King of Prussia, PA, USA</i> | 05/2022 - 08/2022 |
| <ul style="list-style-type: none">• 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

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|---|---------------------------------|------------------------------|--------------------------|
| • BS Electrical and Computer Engineering | <u>Temple University</u> | <i>Philadelphia, PA, USA</i> | 08/2021 - 12/2024 |
| • <u>AWS Cloud Practitioner</u> | <u>Amazon</u> | | Obtained 04/2024 |
| • <u>Technical Support Fundamentals</u> | <u>Google</u> | | 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