**Skills** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

• C/C++ | Assembly Programming (AVR, MIPS, RISC-V) | Python | AWS | Git | Bash | Docker | PLC Programming |

Excel (VBA) | AutoCAD

**Education** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**BS Electrical Computer Engineering (3.97 GPA)Temple University** *Philadelphia, PA, USA* **08/2021 - 12/2024**

• [**AWS Cloud Practitioner**](https://www.credly.com/badges/54f952f5-0419-4294-86ac-46d79dea2adc/public_url)**AmazonEarned** **04/2024**

• [**Technical Support Fundamentals**](https://www.coursera.org/account/accomplishments/verify/U5PNW7R3EBFT)**GoogleEarned** **07/2021**

**Experience** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

• Developed Excel (VBA) for DDE (Dynamic Data Exchange) to copy 1000+ PLC5 tags into a newer ControlLogix system.

• Created a set of internal Python applications that were later added to the production codebase to execute mass code changes on text-based ladder logic programs to reduce errors for rote tasks and create in-program error checking. I was repeatedly able to modify these scripts on the fly to save 4+ hours of billable on-site hours for customers.

• Investigated time-sensitive system failures using a combination of remotely connecting to systems as well as high pressure on-site visits

• Participated in a two-person week-long installation trip to North Carolina with a focus on client-facing soft skills under pressure while executing technical tasks.

• Designed state of the art HMI (Human Machine Interface) and SCADA (Supervisory Control and Data Acquisition) systems to streamline and simplify factory processes

• Performed R&D on Information and Control systems for leading factories in pharmaceuticals, food/beverage, and specialty chemical companies

• Programmed component-based software for PLCs (Programmable Logic Controller) using the ISA-88 and ISA-95 standards using a combination of scripting and ladder logic

**Webscraping ResearcherTemple 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

• Creating a novel way of scraping tables to overcome inconsistent table formatting problems. Saving upwards of 6 hours (8% of runtime) per filing by leveraging actual element sizes being displayed in conjunction with the website’s HTML

• Utilizing Python’s Pandas, Beautiful Soup, Pyppeteer, Selenium, and Requests libraries to scrape over 30 Schedule of Investment (SOI) tables per company

• Helping to manage RA teams to follow PEP8 standards to allow for effective peer programming and to effectively continue building the established code base

**Particle Physics ResearcherTemple 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 to compensate for deadtime

• Collaborated with physicists to reduce error rate to 0.042 % 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 directly to external disks

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

• Worked with an interdisciplinary engineering team to gather, process, and present data on infrastructure projects

**Projects** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

• [Breast Cancer Digital Pathology System](https://github.com/Leo-Berman/Machine-Learning-Applications-In-Digital-Pathology) - Worked with machine learning specialists and other programmers to design and implement novel Machine Learning systems using 3.5 Terabytes of image data. Followed PEP8 standards as well as [ISIP](https://isip.piconepress.com/projects/speech/software/tutorials/general/) standards

• [Upcycling Treadmill to Web-Controlled Walk Pad](https://github.com/Leo-Berman/Treadmill-To-Walking-Pad) ([Writeup](https://github.com/Leo-Berman/Treadmill-To-Walking-Pad/blob/ad434f6aecd6edc79e3246cf7f7f194d2eee7e87/Final_Paper/Treadmill-To-Walking-Desk_Final_Paper.pdf)) – Converted an out of commission full-size treadmill to a low profile walk pad controlled by a web interface via a Raspberry Pi talking with an Arduino. Languages used include Arduino, Python, HTML, and JS

• [PLC In-program Error Checking](https://github.com/Leo-Berman/L5Ktouchtagname) – Processed text format PLC program files (L5K) to add unique tags and branch instructions which allow for in-program trouble shooting without changing code performance

• [Tetris From Scratch](https://github.com/Leo-Berman/Tetris) – Utilized SDL and ncurses libraries to build a version of Tetris in C++ from scratch

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