

**PROFILE**

Backend software engineer currently working at Arcadia, where I write modules to automate the collection and processing of utility data. Past experiences include work in infrastructure, DevSecOps, and machine learning. Pursuing a Master's degree in Computer Science at Temple University.

**EDUCATION**

**M.S. in Computer Science, May 2025 (Expected)**

Temple University, Philadelphia, PA

GPA: 3.78

**B.S. in Mechanical Engineering, June 2016**

Drexel University, Philadelphia, PA

GPA: 3.86

**Graduate Courses:** Principles of Data Management, Predictive Modeling in Biomedicine, Data Mining, Data Structures and Algorithms, Operating Systems

**Undergraduate Courses:** Advanced Programming Techniques, Control Systems, Finite Element Methods, Computer Aided Design, Fluid Dynamics, Materials, Thermodynamics

**Certifications:** CompTIA Security+ SY0-601 (January 2022 - January 2025)

**SOFTWARE**

**Languages**

- Python, Java, Ruby, JavaScript (Node.js), C++, C, Rust, Bash, Perl, MATLAB

**Cloud Development Tools**

- AWS, Docker, k8s, GitHub, GitLab, Jenkins

**GRADUATE RESEARCH**

**Center for Data Analytics and Biomedical Informatics at Temple University | Philadelphia, PA**

*Hypertension Detection*

August 2022 - Present

- Develop a PyTorch Residual Neural Network model that classifies retinal images for various indicators of Hypertension
- Tune hyperparameters via an Optuna script to determine ideal model setup
- Improve training performance using methods such as oversampling and image augmentation
- Perform normalization methods on images from various sources to ensure consistency across the dataset

*Social Media Bias Identification*

June 2022 - August 2022

- Parsed data from articles, Tweets, and Reddit posts related to the Russo-Ukrainian War
- Mined novel data from Reddit related to the Russo-Ukrainian War
- Performed Sentiment Analysis on the data collected

**WORK**

**Arcadia | Remote**

*Software Engineer III - Residential Utility Data Team*

April 2023 - Present

*Software Engineer II - Residential Utility Data Team*

April 2022 - April 2023

- Developed Python modules for parsing residential utility data from external utility websites
- Implemented API and cookie-based login protocols for accessing consumer utility sites
- Lead an effort to move utility connectors from running on AWS Lambda to Kubernetes
- Increased the scope and size of unit tests, as well as giving several internal presentations to enable other team members to do the same
- Updated data models in a Rails application for interacting with a Postgres database

## **The Stratagem Group | King of Prussia, PA**

*Software Engineer Senior - Cloud Development Program*

September 2021 - April 2022

- Designed and implemented a backend REST API query service using Spring Boot
- Determined query syntax and rules to allow the service to search reports stored in Elasticsearch
- Implemented unit tests using JUnit and Mockito

*Software Engineer Senior - App Framework & Infrastructure Program*

Sept 2020 - Oct 2021

- Defined and implemented a program-wide DevSecOps pipeline that could build, test, scan, and package C++, Java, and Python applications through GitLab CI/CD
- Developed libraries in C++, Java, and Python to simplify API calls to a customer SDK
- Fixed library linking issues that occurred when compiling C++ code using Autotools
- Found and resolved bugs by deploying and testing applications in an OpenShift pipeline
- Served as scrum master for an agile development team of up to 15 engineers

*Software Engineer Senior - Automated Testing Program*

August 2019 - December 2020

- Created an AWS Lambda Python application to export / import TestRail project data
- Developed automated UI tests using Cucumber.js and Selenium to simulate user actions for over 40 different test scenarios
- Created Python, Java, and Node.js automated test pipeline templates in Jenkins

*Software Engineer Senior - Machine Learning Program*

March - October 2020

- Created and improved functions for reading and classifying incoming data from an Apache Kafka broker
- Hardened docker-compose development network to enhance functionality and stability
- Developed methods for hyperparameter optimization utilizing Optuna

*Co-op Program Recruitment Lead*

March 2020 - April 2022

- Lead the process of recruiting and hiring students from the Drexel University Co-op program for various roles throughout the company

## **Lockheed Martin, Space Systems Company | King of Prussia, PA**

*Software Engineer*

April 2018 - August 2019

*Associate Software Engineer*

September 2016 - April 2018

- Automated software installation and server configuration tasks
- Supported weekly deployments to a factory level test environment
- Maintained software archives on an air-gapped system in Sonatype Nexus by developing RESTful API modules
- Developed and improved End-to-end tests using Selenium and C#

## **University City Science Center | Philadelphia, PA**

*Technical Investment Analyst Co-op*

September 2014 - March 2015

- Prepared and submitted grant applications through the National Institute of Health (NIH) and Small Business Innovation Research (SBIR) programs

## **UNDERGRAD RESEARCH**

### **Optical Diagnostics Lab, Drexel University | Philadelphia, PA**

*Hess Undergraduate Research Scholar*

June 2015 - March 2016

- Wrote a Python script to monitor vibration on lab equipment using an accelerometer connected to a Raspberry Pi
- Designed circuit board to read data from accelerometer and temperature monitor

### **Engineering Spring in Bochum, Ruhr-Universität | Bochum, Germany**

*Lab Assistant*

April - June 2014

- Assisted a PhD candidate in performing research on Phase Change Slurries (PCS)