Andy Gnias

https://github.com/AGnias47 | https://www.andygnias.com/

PROFILE

Software engineer with 6+ years of experience. Proficient in Backend Development, DevSecOps, and Machine Learning. Particularly good at debugging obscure issues, and writing strong documentation and unit tests to prevent them from happening again.

EDUCATION

MS in Computer Science, December 2025 (Expected)
Temple University, Philadelphia, PA
GPA: 3.73

B.S. in Mechanical Engineering, June 2016
Drexel University, Philadelphia, PA
GPA: 3.86

Graduate Courses: 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, C++, JavaScript (Node.js), Ruby, C, Rust, Bash, Perl, MATLAB
Cloud Development Tools
• AWS, Docker, k8s, GitHub, GitLab, Jenkins
Engineering Tools
• ANSYS, Creo, MakerBot 3D Printing, Minitab, LabVIEW, LaTeX

GRADUATE RESEARCH

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

Hypertension Detection August 2022 - Present

- Develop a PyTorch model based on a Residual Neural Network for classifying retinal images for various indicators of Hypertension
- Tune hyperparameters via a script utilizing Optuna for determining ideal model, optimizer, and model and image hyperparameters
- 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-Ukranian War
- Mined novel data from Reddit related to the Russo-Ukranian War
- Performed Sentiment Analysis on the data collected

WORK

Arcadia | Washington, D.C. (Remote)

Software Engineer III - Residential Utility Data Team April 2023 - Present
Software Engineer II April 2022 - April 2023

- Develop Python modules for parsing consumer data from external utility websites
- Implement API and cookie-based login protocols for accessing consumer utility websites
- Lead several design efforts for implementing new processes that included the creation of an RFC and implementation plan
- Lead efforts to improve code coverage with unit tests, increasing coverage by over 10%
- Debug issues with data collection over a pipeline including a custom queuing app, AWS Lambda functions, a Rails application, and 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 occured 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
- Presented and demonstrated custom software tools at conferences to stakeholders

Software Engineer Senior - Machine Learning Program March - October 2020

- Created and improved functions for reading and classifying incoming data from an Apache Kafka broker
- Evaluated datasets to determine useful attributes for accurate classification
- 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

LAB / PROJECT EXPERIENCE

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)