Andy Gnias

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

PROFILE

Software Engineer proficient in backend development, particularly with Python. Have also held roles in DevOps, Infrastructure, and Machine Learning. Skilled at debugging obscure issues, and writing strong documentation and unit tests to prevent them from happening again.

EDUCATION

M.S. Computer Science, May 2025
Temple University, Philadelphia, PA | 3.83 GPA

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

SKILLS

- **Programming Languages:** Python, Java, C++, JavaScript (Node.js), Ruby, SQL, C, Perl, Bash, MATLAB
- **Frameworks:** Flask, Django, FastAPI, SpringBoot, Rails
- **Cloud Development Tools:** AWS, Docker, Kubernetes, Helm, Snowflake
- **Testing Tools and Frameworks:** Selenium, Cucumber, pytest, JUnit, GoogleTest
- **CI / CD:** GitHub, GitLab, Jenkins
- **Database Tools:** psql, mysql, dbt

WORK

Arcadia | Remote
Late-stage startup utilizing utility data for renewable energy solutions
Senior Software Engineer — April 2024 - Present
Software Engineer III — April 2023 - April 2024
Software Engineer II — April 2022 - April 2023
Growth and Governance Team

- Debugged Java applications for handling proration and inference of utility data
- Collaborated with internal teams to implement improvements to an address geocoding service
- Created a tool to optimize memory use for tasks running on Kubernetes
- Created application deployment processes using GitHub Actions and Helm

Residential Utility Data Team

- Developed utility connectors in Python that authenticated users and captured residential utility data from consumer utility portals and websites
- Lead an effort to move utility connectors from running on AWS Lambda to Kubernetes
- Updated Rails models, controllers, and processors for managing data in a Postgres database
- Increased the scope and size of unit tests, as well as giving several internal presentations to enable other team members to do the same

The Stratagem Group | King of Prussia, PA
Small-scale contractor for various programs spanning across the DoD and Intelligence Community
Software Engineer Senior — August 2019 - April 2022
App Framework & Infrastructure Contract

- 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

Automated Testing Contract

- 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

Cloud Development Contract

- Designed and implemented a backend REST API query service using Spring Boot
- Implemented unit tests using JUnit and Mockito

Machine Learning Contract

- Created and improved functions for reading and classifying incoming data from an Apache Kafka broker
- Developed methods for hyperparameter optimization utilizing Optuna

Co-op Program Recruitment Lead

- Lead the process for recruiting and hiring students from the Drexel University Co-op program

Lockheed Martin, Space Systems Company | **King of Prussia, PA**
Large-scale contractor for various programs spanning across the DoD and Intelligence Community
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
- Developed Perl scripts to synchronize software packages on an air-gapped system
- Created and improved End-to-end tests using Selenium and C#

RESEARCH

Capstone Project | **Temple University**
Approximation Algorithms for the Traveling Salesman Problem — January - May 2025

- Implemented state of the art algorithms for the Traveling Salesman Problem, including Ant Colony Optimization and Q-Learning, and compared efficacy on several problem types

Center for Data Analytics and Biomedical Informatics | **Temple University**
Machine Learning to Detect Hypertensive Retinopathy — August 2022 - May 2023

- Developed a PyTorch RNN pipeline to classify retinal images for indicators of hypertension
- Improved the model via hyperparameter tuning, oversampling, and image augmentation

Center for Data Analytics and Biomedical Informatics | **Temple University**
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

PERSONAL PROJECTS

March Madness Predictor | https://andygnias.com/march-madness/
• Creates brackets for the Men's NCAA Division 1 Basketball Tournament. Evaluation mode allows manual bracket selection via a Django app, utilizing scraped data, and prediction mode makes automated selections using various prediction methods.

Spotify Playlist Generator | https://andygnias.com/SpotifyAPI
• Generates a Spotify playlist for a user from a text-based list of tracks via a Flask app

Secret Santa Selection Manager | https://andygnias.com/Secret_Santa
• Makes Secret Santa selections for a group, considering exceptions, and emails the assignments to participants via Gmail API