Zachary Collins

Developer with 7 years of Programming experience and a passion for creating
Portfolio: http://zachary-collins7.github.io | Github: https://github.com/Zachary-collins7

Top Skills

- **Programming Languages:** Python | Typescript | Swift | PHP
- **Framework/Platforms:** NextJS | ReactJS | SwiftUI | Laravel | .NET
- **Databases:** MySQL | MsSql | MongoDB | MariaDB | Sqlite3

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Professional Experience

Comcast – Python Developer III – Contract   *Aug 2022 - Aug 2023*
Durango, CO

- Designed and developed a Python-based program to connect to a diverse array of over 10,000
  database nodes - all of various types including mysql, mssql, Oracle, and Teradata. This effort
  yielded valuable analytics about database functionality, user access, and credential verification.
  Collected data was processed further before being fed into a web application.
  Notably, the resulting web application empowered Data-Auditors to efficiently pinpoint tables
  for deeper analysis, saving significant time that was previously lost to firewall challenges and
  manual interactions.
  Tables queued for analysis were then processed by a separate Python program that connected
  and queried the database nodes, sending the results back to the web application for display.
  The project's efficiency-focused design included the use of threads and processes to speed up
  the entire process.

- Lead the creation of a Python library dedicated to web automation testing, overseeing its
  development to evaluate the operational integrity of an in-house web application
  Engineered with a strong focus on programmer accessibility, the library was thoughtfully
  architected utilizing many design principles that contributed to its robustness.
  Among these principles, the builder pattern stands out, as it allowed for a simple interface
  which made the library fast to pick up and tests built with it easy to read.

- Actively engaged and collaborated with fellow team members across teams to resolve various
  operational challenges as they surfaced, highlighting my strong aptitude for collaborative
  problem-solving and contributing to a harmonious team environment.

Skills: Python — Selenium — EC2 — Mysql — MongoDB — S3 — Oracle — Postgresql — DynamoDB — Teradata — Redis

Expert Ready – Developer   *Sept 2019 - Oct 2020*
Tulsa, OK

- Designed and implemented an event processing system that eliminated monthly bugs and
  unified system management. The system provided an 80% reduction in support tickets and a
  traceable log of events which aided development and greatly improved the system's
  performance and reduced the number of support tickets.

- Developed a data generation tool to migrate data tables to streamline the customer's
  workflow. Streamlining reduced on-field table conversation and minimized user error.

- Migrated customers to new deployment environments. Learned and applied the end-to-end
  process of developing and deploying a web application from environment initialization to DNS
  configuration.

Skills: Laravel — PHP — Docker — .Net — K6

ITRS Group – Intern
Tulsa, OK
May 2019 - Sept 2019

- Head of Global Strategy mentored me about product competition and the Gartner Magic Quadrant. Created "battle cards" comparing our product with competitors.
- Designed and implemented a Nagios compatible plugin for OP5 Monitor. Utilized command-line options and comprehensive exception handling.
- Created a scalable Docker stack implementing Nginx for load balancing containers running web servers.

—— Python
—— Bash
— Nagios API
—— Web API

Samp Innovations – Consultant
Tulsa, OK
May 2019 - July 2019

- Worked on a .NET application to create a web form with client-side validation and inserted that data into an SQL database.

—— .Net
—— JS

Oklahoma Aquarium – Consultant
Jenks, OK
Feb 2019 - Jun 2019

- Designed and developed a mobile app for people touring the aquarium. Presented information about each fish through quizzes and prompts.

—— Swift
— Objective C

Personal Projects

Discord Bot
Feb 2023

- Created a discord bot to connect users of a game to resources and information provided by the game and the community.
  With over 1,400 daily users, I focused on making the bot as efficient and fast as possible while still providing a great user experience.
- The bot uses Selenium to scrape the game's website and uses Google Translate and GPT-3 to translate the information into the user's language.
  Translated information is cached in a database to prevent unnecessary requests.
- Using information provided by the users, the bot calculates insights about the individual user's progress and provides them with personalized information. Personalized information is also translated into the user's language (if supported). The information is also used to hit the game's API to give the user in-game items.
- Detailed logs are kept for each user to help with debugging and to provide insight into how the bot is being used. Logs are queried, sorted, and displayed in a dashboard for easy viewing.
  A Terms of Service and Privacy Policy are also provided to all users to comply with Discord's terms of service.

—— Python
—— GPT-3
— Selenium
— Discord-api
—— Mysql

Portfolio Website
May 2022

- Deployed using NextJS static site generation to Github Pages (uses a work-tree deployment branch alongside the main branch)
- The Site features a fully decked-out SEO (including sitemap and robots.txt), color themes, Google Analytics, and a custom 404 page.
- Uses SCSS modules (non-decorated) to prevent CSS class-name collisions.
- Uses typescript for live type-checking and to give confidence in deployed code.

—— NextJS
—— ReactJS
— Typescript
—— SCSS
—— NPM

Robotics Experience

Robotics Experience – Team Leader/Lead Programmer   *2017 - 2020*

- Lead FTC team 11572 - a team of 10 to design and create a robot.   ——— Java
- Competed at the world level against 70+ countries.   ——— Python
- Independently learned and applied control systems to autonomously complete challenges. ——— CAD

Invited to MIT   *2018*

- Completed a prerequisite programming/Linux course and was invited based on merit.   ——— Python
- MIT Department leads and partnered technology corporations mentored us through various   — TensorFlow
  control systems and technologies.   ——— ROS
- Project-based learning allowed us to implement many modern technologies including Event,
  State, and SLAM architectures, PID controllers, IMU, Lidar, and Stereoscopic cameras.

Education

University of Tulsa   **Tulsa Community College**   **Home School**
Computer Science   Gen Eds   High School Diploma
Aug 2020 - May 2021   2018 - 2020   2016 - 2020