William Karnavas

# Software Engineer

Creative, upbeat Software Engineer with over 7 years of web service development, IoT, and automated test experience.

# Contact Information

Raleigh, NC 27613 | [william.karnavas@gmail.com](mailto:william.karnavas@gmail.com) | <http://williamkarnavas.com>

980-307-1642 | <http://github.com/FenceFoil> | <http://linkedin.com/in/WilliamKarnavas>

# Skills

Java, SpringBoot, Maven, JUnit, JAssert, Mockito

Python, Flask, FastAPI, Pytest

SQLite, PostgreSQL, MongoDB

OpenAPI 3.0 / Swagger, Microservices

Docker, Linux, Bash, SSH

JavaScript, Vue.js, npm, yarn, HTML, CSS, Alpine.js

Gephi, Image Classifiers, Large Language Models

Git, Jira, Jenkins, JMeter

# Work Experience

Toshiba Global Commerce Solutions, North Carolina | Software Engineer | 08/2018 – Present

* Productized 7-microservice retail AI IoT prototype using Java, SpringBoot, and OpenAPI 3.0 on 8 engineer team.
* Ruggedized single-customer prototype solution to sell and operate for many customers at 10k+ edge node scale.
* Expanded automation test usage from under 50% unit test coverage to >95% unit and integration test coverage as number of services doubled in sustained effort as part of feature work.
* Gathered requirements continuously with stakeholders, installers, and integrators to achieve consistent on-time delivery.
* Led 3 interns on project to create data analysis and visualization tool in Python and PyInstaller to speed solution deployment by multiple months for each new customer.
* Created automated typesetting system for generating several PDF manuals of 40 to 100 pages from markdown using Python and Paged.js which was soon adopted by software division beyond our team.
* Enabled simultaneous feature design across backend and frontend using OpenAPI specs and Python + SQLite mocks to communicate backend design to frontend developers vividly.

Honeywell Smart Energy (Through EASi), North Carolina | IoT QA Engineer | 07/2017 – 08/2018

* Wrote automated tests using Python and Pytest for IoT smart electric meters, enabling daily regression tests and faster delivery of product.
* Expanded support of proprietary Python test APIs to more hardware and added exceptions to indicate failures clearly, speeding diagnosis and problem solving.
* Designed Python and wxWidgets control panel GUI to improve UX of operating relay boards for test equipment.
* Built RGB LED salt crystal lamp to make when a workflow-critical spreadsheet was locked in SVN instantly observable to entire team of 15 testers at once.

# Education

Bachelor of Science, Computer Engineering, Graduation Year 2017

University of North Carolina at Charlotte

# Projects

18 Game Jams: Jan 2016 – March 2024

* Created variety of games, usually group participation games or interactive fiction, in a hackathon setting.
* Team sizes from solo up to several people.
* Recent games made as single-page webapps (SPAs).
* Example titles include “Find Real Humans Near You”, “You Wouldn’t Copy a Move”, and “[Make 11 Fish](https://www.williamkarnavas.com/fish/)”.

MineTunes: March 2012 – December 2013

* Wrote Minecraft video game mod in Java, [hosted on GitHub](https://github.com/fenceFoil/MineTunes), updated across 12 versions of game code.
* Used variety of software MIDI synthesizers to play JFugue musical notation written on signposts and books.
* Encouraged feedback and wrote in features suggested on the [Minecraft Forum thread](https://www.minecraftforum.net/forums/mapping-and-modding-java-edition/minecraft-mods/1288220-1-6-4-minetunes-midi-music-from-vanilla-blocks).
* Early participant on Mojang Jira, submitting [MC-81](https://bugs.mojang.com/browse/MC-81), [MC-154](https://bugs.mojang.com/browse/MC-154), and [MC-2902](https://bugs.mojang.com/browse/MC-2902) with thorough supporting info.