

# Billy Buehl | Software Developer

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## Technical Skills

**Programming** : Python, Javascript, Typescript

**Web Development** : Angular, React, Flask, HTML/CSS, Javascript, Typescript, JQuery, SCSS, Bootstrap, Material UI, Apache, SQL

**Networking** : Wireshark, Bash, Linux, Network Analysis, IP Subnetting, Router Configuration, Website Maintenance, Zabbix

**Version Control** : Git, Github

## Relevant Professional Experience

### Software Engineer & Automation Specialist | *Expandshare*

May 2021 - Present

Akron, Ohio

- Develop interactive user interfaces using both React and Angular frameworks
- Implemented Redux for efficient state management, enhancing scalability and application maintainability
- Conduct code reviews and provide constructive feedback to team members, fostering a culture of continuous improvement and quality assurance
- Create automation scripts and animation presets using Javascript and Python

### Web Developer/Designer | *NASA Glenn Research Center*

January 2021 - May 2021

Cleveland, Ohio

- Developed automation applications using Python
- Created web pages and apps using HTML/CSS/JS and JQuery
- Collaborated with NASA Safety Center professionals to create web and multimedia content

### Internet Engineering TA | *Ohio University Computer Science*

August 2020 - December 2020

Athens, Ohio

- Collaborated with ITS faculty and staff to deliver ITL course materials
- Assisted undergraduate/ graduate students with course work and labs
- Developed apps using HTML/CSS/JS for learning assistance and technical explanation
- Graded student lab reports and course work

### Systems Engineering Intern | *Progressive Insurance*

May 2020 - August 2020

Mayfield, Ohio

- Worked alongside Progressive's Network & Telecom and Server & Infrastructure teams
- Collaborated with app development interns to build AWS transcription / voice recognition app
- Wrote Python scripts for automation and development projects
- Solved server and networking related tickets, incidents, and work orders
- Utilized Git / Github for remote project collaboration

### Graduate Assistant | *J. Warren McClure School of Information and Telecommunication Systems*

January 2020 - May 2020

Athens, Ohio

- Assist environmental sciences faculty with IT services
- Administer data server for weather and sustainability devices
- Troubleshoot IT problems in ITS lab

## Education

### Ohio University, Athens OH

#### Master of Information and Telecommunication Systems

December 2020

GPA : 4.0

#### Bachelor of Science in Communication

May 2019

Major : Integrated Media Production

Double Minor : Information & Telecommunication Systems and German

GPA : 3.691

## Relevant IT/Development Graduate Coursework

### Internet Engineering | *McClure School of Information and Telecommunications*

Fall 2019

Grade received: A

- Explored the concepts of IP addressing, router configuration, and network infrastructure
- Utilized networking tools such as Wireshark, GNS3, and command line utilities
- Configured and managed local area networks on Windows, Linux, and Mac operating systems

### Encrypted Communication | *McClure School of Information and Telecommunications*

Fall 2019

Grade received: A

- Examined principles of telecommunication encryption and security
- Employed tools such as symmetric/ public key encryption, hash functions, SSH, and VPN

### Information Networks | *McClure School of Information and Telecommunications*

Fall 2019

Grade received: A

- Studied principles of routing, subnetting, internet protocols, and networking applications

### Research Methods | *McClure School of Information and Telecommunications*

Spring 2019

Grade received: A

- Explored research methods and data collection techniques for analyzing LAN traffic

## Development & IT Projects

### OUGR Data Tools - Python + Flask, HTML/CSS/Javascript

[app](#) | [code](#)

- Python Flask live-data collection and monitoring server
- RESTful API for submitting and retrieving data
- SQL database
- HTML/CSS/JS + Canvas.js web ui

### After Effects Presets Library - Javascript

[code](#)

- Javascript presets for Adobe After Effects
- Automation expressions and scripts

### Portfolio Site - Python + Flask/HTML/SCSS/Javascript/SQLite

[app](#) | [code](#)

- Flask/Wsgi web application
- Secured Apache2 web server
- Wildcard SSL certificate for different subdomains
- Admin login for app configuration
- Lazy loading content rendering
- SQLite database

### Expand Copilot - Javascript/Extendscript

[code](#)

- Extendscript After Effects ScriptUI Panel
- Applies and removes After Effects Presets

### Javascript Course Framework - HTML/CSS/Javascript/JQuery

[app](#) | [code](#)

- JSON configurable slide deck with slide animations
- Recursive iteration through sequence objects to get next  $n$  items
- HTML/CSS/JS web ui

### IPv4 & IPv6 Subnet Calculator/Base Converter - Javascript/HTML/CSS

[app](#) | [code](#)

- Calculate subnets for IPv4 and IPv6 networks given subnet mask and number of desired subnets
- Decimal, binary, and hexadecimal base converter
- "How to" page for manual subnetting and numeral system clarification
- Javascript input validation and frontend computation
- HTML/CSS/JS web ui

### Terminal Sudoku Solver - Python

[code](#)

- Solve  $n$ -sized sudoku puzzles with backtracking

### Command Line Distance Vector Routing Simulator - Python

[code](#)

- Multi-threaded command line Python router simulator
- Routers communicate through sockets specified in topology configuration file
- Auto-correcting best path distance vector algorithm

### Crypto-Currency Mining and Brute Force Tools - Python

[code](#)

- Iteration and mining tools without use of libraries
- Recursively iterate through every permutation of length  $n$  given a keyspace of unique characters
- Simulate crypto-currency mining and private/ public key creation
- Convert between base-10 and base- $n$  given a keyspace size  $x$

### Green Roof Data Collection/Monitoring Server - Zabbix + Apache + Python

[app](#) | [code](#)

- Zabbix monitoring software for environmental data collection and representation
- Secure Apache2 HTTPS server for frontend UI with signed certificate
- Python scripts used for external checks/ interactions with data logging devices and 3rd party APIs
- HTTP server to accept data from HTTP POST requests

### Passvault Password Manager - Python/cryptography library

[code](#)

- Command line password manager
- File and password encryption and decryption functionality
- Append, edit, and delete password entries
- Built-in password generator