Bennett Zug

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Education

Appalachian State University   August 2022 – May 2026
B.S in Computer Science, Minor in Mathematics | GPA: 3.5 (Overall), 3.9 (Major)   *Boone, NC*
Relevant Coursework: *Data Structures, Introduction to Theoretical Computer Science, Discrete Math, Linear Algebra*

Experience

Summer Technology Assistant   Summers, 2018–2023
St Timothy's School   *Raleigh, NC*
- Managed Google accounts and Chrome devices for the middle school of 200+ students.
- Automated account creation and updating in order to reduce man hours needed by 80%.
- Troubleshooted technology problems from other staff.
- Grew into a leadership role amongst the group throughout the years.

Youth Coach and Event Belayer   October 2021 – January 2023
Triangle Rock Club   *Raleigh, NC*
- Effectively communicated safety instructions and techniques to youth and adult climbers, emphasizing clear communication.
- Implemented and enforced safety measures.
- Managed after school youth programs, both directly leading children and delegating tasks to other employees.

Projects

EquiB | *React, Firebase*   Hackathon Project
- Worked with a team to develop a USDC based banking app in order to provide access to banking to the billions who cannot access traditional banking.
- Won "Best Use of Circle" at HackNC 2023.

Predicting Median Housing Prices | *R, Python*
- Built a web scraping script using the Selectolax HTML parser to download data from websites into a .csv format
- Using R, built a linear regression model in order to predict median housing prices in each US metropolitan area

MatrixOCR | *Python, OpenCV, Tessearact, C++*
- Built a command-line tool to extract mathematical matrices from images and then do mathematical operations on them, using image pre-processing and an Optical Character Recognition model
- Ported the tool to from Python to C++ to optimize for performance and portability
- Built matrix operations in C++

class-search.com | *Python, Flask, PyTorch, Svelte, PostgreSQL*
- Computed embeddings for gathered class data from multiple universities websites
- Built a backend to compute embeddings for users queries, and then look up similar embeddings with pgvector in PostgreSQL
- Designed a reactive frontend in Svelte
- Deployed Flask web server to the internet with Gunicorn and Nginx

Organizations

FTC 2901 Member   August 2018 – May 2020
Cardinal Gibbons High School   *Raleigh, NC*
- Worked on a FTC team as a programmer during high school.
- Focused on movement code for the autonomous driving of the robot, written in Java.
- Collaborated to qualify for the FIRST Tech Challenge Nationals (cancelled due to COVID-19 pandemic).

Technical Skills

Languages: Java, Python, R, LaTeX, C++, SQL (Postgres), HTML/CSS
Developer Tools: Git, Vim, VSCode
Frameworks: Svelte, Flask
Libaries: OpenCV, PyTorch, Numpy, Pandas, Selectolax