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Education:

Virginia Polytechnic Institute, School of Engineering, Blacksburg, VA
Bachelor of Science - Computer Science, January 2021

Central Bucks East High School, Doylestown PA
Cum Laude, Scholars Diploma, 2016

Applicable Skills:

- 2-3 years experience in Python, C, JavaScript , Java,
- 1-2 years experience in Swift, C++, Linux
- Basic use in Fortran, ANTLR, Lua, Ruby, Perl, SQL,
- 3D printing and design with SolidWorks and Autodesk Inventor

School Projects:

Machine Learning:
Explored many different basic machine learning algorithms fundamentals of representing uncertainty, learning from data, supervised learning, unsupervised learning, and learning theory. Some projects include making COVID-19 predictions, image classifiers, and word classifiers, among others.

Enviorvision
Created as part of the senior design Capstone. Worked with a small team to make a virtual landscape that reacted to historical climate data. Personal responsibilities included collecting and manipulating data, designed visuals. This is the link to the website: https://samiea.github.io/Envirovision/

Cryptography
Analyzed classical ciphers, modern block ciphers and their cryptanalysis and later explored elementary coding and information theory. This information was used to begin to explore complexity of modern cryptographic hash functions. Mostly math oriented but there was coding for the later more complicated projects.

Comparative Microbiology Informatics
Breadth of topics covering structural bioinformatics; modeling and simulation of biological networks; computational sequence analysis; algorithms for reconstructing phylogenies; computational systems biology. Created pseudo and working code for most topics.

Data Structures and Algorithms
Created DNA data base. Translated DNA sequences as binary, stored them in a memory file sorted by a hash function. Results included memory management techniques learned when organizing kilobytes of data.

Merge and external sorter. Dealt with large sums of data. Read the data into 512 byte blocks, used a minheap to sort the block. Merged blocks together in an output buffer and used an external minheap sorting algorithm to put sorted blocks together into a final output file.

Mobile App Development
Created a variety of mobile apps in Swift for app iPhone use. Mostly focused on incorporating API data from various sources to make music apps, tourist apps, video playing apps and much more.

Work Experience:

IT Technician CompuCon/Lowes, March 2021

This short contracting job consisted of traveling to different Lowes locations in order to fix problems with registers, signature capture machines and other items through out all departments. This job required lots of hands-on learning with little preparation.

Sharkey's Wing and Rib Joint, June 2019-March 2020

Employed as a head cook between school hours. Responsible for cooking a wide range of foods including burgers, wraps, wings, and ribs. Worked as member of a team for the timely execution of orders. Responsible for the open and close the restaurant under Board of Health guidelines.

Qdoba, May 2018-August 2018

Responsible for prepping all food prior to restaurant opening. Responsible for maintaining supply throughout the day. Worked individually to gage supply based on customer volume.

Awards:

Had a program featured at a Virginia Tech alumni event
Cum Laude, Central Bucks High School East 2016
Scholar's Diploma, Central Bucks High School East 2016
Presidential Award for Academic Excellence, 2016

Personal Interests:

Kayaking, Lacrosse, Snowboarding