

Aiden Vigue

Cave Spring High School - Expected May 2023 - GPA 4.0 (UW) & 4.25 (W)
Burton Center for Arts and Technology - Governor's STEM Academy for Engineering
Dual Enrollment Program - Virginia Western Community College

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OBJECTIVE

An independent, problem-solving high school senior seeks admission to a college or university to further his interest and knowledge of Computer Science.

EXPERIENCE

TJ Maxx, Roanoke, VA — *Front Line Coordinator*

February 2022 - Present

Supervised the performance of sales associates, used sales tactics to engage with customers about our rewards program, communicated to management about daily cash flow & reports.

Bobby's Hot & Cheesy, Roanoke, VA — *Kitchen Expo*

May 2021 - January 2022

Managed large volumes of food orders ensuring on-time service. Took orders and payments as a front-of-house worker. Ensured positive customer service.

Boy Scout Troop 221, Roanoke, VA — *Senior Patrol Leader and Webmaster, Earned Rank of Eagle Scout*

August 2012 - August 2022

Supervised over 30 Troop members, planned camping trips and monthly outings, oversaw the Troop website as Webmaster, and acted as a liaison between the Scouts and adults.

Medmont Mercantile, Roanoke, VA — *Consultant*

November 2021 - March 2022

Designed, quoted, ordered, and implemented the communications systems for the remodeled store, including wireless networks, phone systems, security systems, and surveillance cameras.

VOLUNTEERING

Rescue Mission Homeless Shelter, Roanoke, VA

August 2019 - Present

Prepared and served meals to a large volume of people. Helped maintain kitchen and serving areas. Volunteered between 4-8 hours a week.

SKILLS

Programming Languages:

Java, JavaScript, C/C#/C++,
Python, PHP, TensorFlow,
Golang, Bash

Software Packages:

Docker / Kubernetes,
VMWare, Xcode, Visual Studio

AWARDS

GE Lights For Life - 1st Place

Created a Wi-Fi controlled light bulb with built-in temperature & humidity sensors.

2021 Lighting Challenge - Runner Up

Designed & manufactured kinetic lighting tiles

COURSE WORK

AP Computer Science – 2020

AP Calculus AB – 2021

AP Calculus BC – 2022

Integrated Physics – 2021

AP Physics – 2022

Intro to Engineering – 2019

Engineering Analysis &

Applications II - 2020

Engineering Methods – 2021

Engineering Design – 2022

Engineering Research – 2022

Engineering Economy – 2022

Eagle Scout Project, Rescue Mission, Roanoke, VA

August 2021 - July 2022

Utilized computer science to design and build a fully-automated hydroponics garden with pumps to dose nutrients & sensors to monitor plant health. The garden holds over 200 plants, which will be used by the Rescue Mission.

PROJECTS

Anesthesia Viral Filter Adapters

Used 3D-modeling to design and print adapters to enable Healthcare providers to use standardized 3M particulate filters with the existing respirators to provide personal protection during the Covid-19 pandemic.

Volvo Apple CarPlay Retrofit

Designed & manufactured custom printed circuit boards to decode internal video & control signals from the car to interface with a custom-built infotainment system running on Android. Reverse-engineered undocumented internal components in order to utilize them in the new system.

Tesla Key - Paid watchOS app

Reverse-engineered the cryptography behind the Tesla Phone Key to enable an Apple Watch to act as a standalone key for the car. The app works in remote scenarios without an internet connection and it generates cryptographically-secure keys that are stored on the device's trusted execution element to guard against attacks.

Decrypted Rolling Code Garages

Used a SDR radio receiver to capture messages between a standard garage door and the supplied remote, and used cryptographical analysis to find the cipher algorithm hidden in the encrypted messages in order to generate RF signals from custom hardware.

Robotic Kinetic Art Table

Modeled and built a custom robotic arm to 'magically' roll a ball around in predefined patterns. Used inverse kinematics and basic calculus to determine arm joint angles from the originating Cartesian coordinates.

EXTRACURRICULAR

Peer Advisor for Student-led group on drug abuse and prevention

Project Lead for iOS and tvOS app development