

## EDUCATION

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### Virginia Polytechnic Institute and State University: College of Engineering

M.E., Computer Science  
B.S., Biomedical Engineering and Mechanics  
Minor in Computer Science

Blacksburg, VA  
Expected May 2023  
Graduated May 2022

## WORK EXPERIENCE

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### Guidehouse

Washington D.C.

#### *Advanced Analytics & Intelligent Automation Intern*

June 2022 – August 2022

- Was responsible for analyzing various Native American tribal region datasets, importing data into PowerBI and updating an interactive graphical dashboard for current and future Indian Health Services (IHS) contracts
- Worked on a Capstone Project which required collaborating with a cross functional team to identify and understand Guidehouse capabilities and past experiences to draft a focused response for a commercial client in need of IT and data support services

### Virginia Tech Helmet Lab, Virginia Tech

Blacksburg, VA

#### *Test Engineer*

August 2021 – December 2021

- Wrote and executed MATLAB scripts for various purposes such as preparing data for Bootstrap analysis and exporting to spreadsheets
- Stored and processed g-force data in Microsoft Excel to aid the rating and assessment process of sports equipment including helmets, mouth guards, and headbands.
- Collected collision force data on SLICEWare by conducting mechanical impact tests to assess and rate snow sport, bicycling, skateboarding and other protective equipment

## PROJECTS

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### **AIVIAN**, *Android Application*

- Developed a mobile application for the photo recognition and species classification of birds for inexperienced birdwatchers using an agile methodology approach
- Leveraged machine learning to classify over 400 North American bird species and allowing users to document, share and view bird observations in the form of a public social feed
- Integrated geolocation data to give users regional information of birds by species, and alerts when a favored species is sighted
- Programmed functionality for learning modules and birdwatching groups to connect users, share sightings, and start bird watching sessions

### **Database and Command Reader**, *Java*

- Built a database system for the storing, removing, and querying of a collection of Objects by Key and Value
- Created SkipList and Point-Region QuadTree data structures for the organization of the database system and optimal efficiency
- Wrote a program to read commands from external text files, executed the commands accordingly and output the results in the console
- Tested each line of code and all possibilities with custom JUnit test cases

### **External Sorting**, *Java*

- Implemented an External Sorting Algorithm to sort a file of Binary data containing up to 102,400 Records of key and value pairs
- Worked under a memory restriction of 512 Records
- Parsed and translated Binary Records to Decimal before using a Heap structure to implement replacement selection sort for the organization of the file into partially sorted runs
- Wrote a multiway merge algorithm to recursively sort the file into one long collection of records in ascending key order

## SKILLS

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Java Programming & Data Structures, Python, C, MATLAB, Android Studio, Linux, PowerBI, Git, RStudio, Object Oriented Programming, Data Analytics, Machine Learning, MS Office, Mechanics