

# Kenneth Powell

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## Education:

- January 2021 to May 2023 (planned): Finishing my Master of Engineering (MEng) degree in computer science at Virginia Tech; current graduate GPA is 3.96
- August 2018 to December 2021: BS in computer science (with math minor) at Virginia Tech; 3.89 GPA

## Honor Societies:

- Phi Kappa Phi Honor Society; top 7.5% of my engineering class at VT
- Phi Beta Kappa Honor Society; top 10% of the arts and sciences graduates at VT

## Skills:

- Python, Java, C, web development (JavaScript, HTML, CSS), version control (Git, GitLab, GitHub), databases (SQL, SQLAlchemy, Elasticsearch), knowledge of Agile, communication skills, teamwork skills, problem-solving skills

## Software Engineering Experience:

- May 2022 to August 2022: Software and full-stack web development internship with CACI
  - Created a containerized, multi-threaded data processing and visualization system using Python and Bash in support of a base-wide unmanned aerial vehicle-defeat contract
    - Uploaded data to Elasticsearch via a REST API to allow the data to be visualized
    - Tested six components of the containerized application using automated testing in Python
    - Implemented a web interface allowing users to change the data visualizer's configuration settings
  - Created a React-powered web application using HTML, CSS, and JavaScript that displays continually updated information on recent GitLab changes to dozens of CACI's software repositories
- June 2021 to August 2021: Software development internship with CACI
  - Implemented three software solutions in Python for managing communications between several BEAM backpack modules without relying on multicast radio-frequency transmissions in support of a backpack-based unmanned aerial vehicle-defeat contract
  - Wrote a Python wrapper for a C++ data exporter component and integrated it into the codebase
- August 2020 to May 2021: Undergraduate research on neural networks and machine-learning datasets as a Virginia Tech Hume Scholar
  - Used convolutional neural networks in Python to tackle computer vision problems related to extracting and classifying digital radio-frequency signals from spectrogram images. This research could be applied to contested radio-frequency battlefield environments or other dynamic radio-frequency situations.
  - Designed an SQLAlchemy database that allows the team to query machine learning data and to store multiple training and test sets simultaneously
- October 2019 to September 2020: Undergraduate machine learning research for the VT Computer Systems Genome Project
  - Used scikit-learn machine learning algorithms and advanced mathematics in Python to analyze TOP500 supercomputer data on Google Colab and predict supercomputer performance and power efficiency
  - Scraped and collected supercomputer specification data using the Python BeautifulSoup library

## Academic Projects:

- Used JavaScript/TypeScript, HTML, and CSS in the Vue framework to develop a bookstore website that supports selecting books from four different categories, submitting an order, validating user input, and displaying an order confirmation
  - Used a MySQL database to store book, book category, and order information for the site
  - Created a REST API for the site that supports querying book and book category information
- Implemented the AI for an intelligent PacMan agent that can eat pellets and avoid ghosts using Python
- Implemented an object-oriented GIS command executor in Java that supports storing, processing, and querying GIS data
- Developed the UI for a virtual reality cooking simulator on a team of four students using Agile principles
- Created a MIPS assembler in C
- Performed data analysis using Spark on CSV files representing air travel data