

## EDUCATION

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- **University of Virginia (2019 - 2023)** 3.99 / 4.00
  - B.S. Computer Science (Expected May 2023)
  - B.A. Economics (Expected May 2023)

## EXPERIENCE

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- **Research Assistant / University of Virginia / Charlottesville, VA** August 2020 - Present
  - Designed and developed secure and usable Voice Personal Assistant software in C++ and Python that improves privacy controls on current industry standards like Amazon Alexa
  - Explored security and privacy vulnerabilities in Voice Personal Assistants to publish in research
- **Data Science Intern / JHU Applied Physics Laboratory / Laurel, MD** June 2020 - August 2020
  - Developed MySQL database for unified access to COVID-19 data from multiple sources to aid the JHU APL's COVID-19 modeling effort
  - Proposed and led a COVID-19 sentiment analysis project to examine public opinion shifts in specific areas like mask-wearing and shutdowns and how it may affect or be affected by state-level public policy
  - Presented results to a team of engineers across the APL network and work was scouted for further implementation with the APL's ESSENCE health surveillance tool
- **Intern / Lepton Global / Vienna, VA** May 2019 - August 2019
  - Developed SQL databases and front-end software in Microsoft Access to log network activity and outages
  - Built a custom desktop application to create, archive, and synchronize customer quotes and sales across company computers
  - Communicated with business partners and government agencies to secure procurement and service contracts

## EXTRACURRICULARS

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- **Competitor / UVA Moot Court** Sept 2019 - Present
  - Wrote and argued complex Constitutional law cases to panels of judges
  - Only team from UVA to break into the round of 16 at Liberty University 2019
- **Team Captain / Team America Rocketry Challenge** Sept 2016 - June 2019
  - Led school rocketry team in designing, building, and flying model rockets up to 1000 ft. while carrying electronics
  - Placed 14th in national rocketry competition finals

## PROJECTS

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- **ctaff + rizumu**
  - ctaff: Developed algorithms to detect rhythm and beats in music using Fourier transforms and audio signal processing
  - rizumu: Built a fully-featured cross-platform rhythm game using ctaff that allows automatic generation of beat maps for any song
- **Pystation**
  - Built a public internet radio station and lightweight DJ software using the Shout protocol
  - Features cross-platform usability and powerful controls for DJs, including a 24/7 offline bot streamer
- **Toxical**
  - Trained a neural network to automatically detect and moderate online conversations on platforms like Twitter and Discord
  - Developed a custom sentiment analysis algorithm that detects toxic comments with 80% accuracy

## PROGRAMMING SKILLS

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- Python, Java, C/C++, HTML/CSS, JavaScript, SQL, TensorFlow, Git