Home Address
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ERIN FRECK
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School Address,
Blacksburg, VA 24061

EDUCATION

Virginia Tech, Blacksburg, VA — M.S. Computer Science
Expected May 2024

Virginia Tech, Blacksburg, VA — B.S. Computer Engineering, Minors in Computer Science and Cybersecurity
Expected May 2023   Cumulative GPA: 3.94/4.00   In Major GPA: 3.96/4.00
Relevant Classes: Networking and Computer Security, Computer Networking, Machine Learning, Artificial Intelligence, Cryptography
Honor Societies: Eta Kappa Nu (IEEE), Tau Beta Pi (Engineering)

WORK EXPERIENCE

Google, Remote - *SWE Intern on Google Cloud Event Threat Detection*   MAY 2022 - AUGUST 2022
- Built two customer-configurable detection modules using Java to identify IAM-based privilege escalation attacks, processing tens of millions of customer logs and petabytes of data per second
- Collaborated with a UX team to design a UI for customers to use the two custom modules
- Helped build a system using C++, C, and Go to allow security engineers to run YARA-L and SQL rules against GCP logs in real time

Google, Remote - *STEP Intern on Google Ads Open Measurement*   MAY 2021 - AUGUST 2021
- Worked on the Cross Media Measurement team to measure ad views across media platforms to provide users with more diverse ads and advertising companies with more accurate data
- Designed and tested a library in C++ and Bazel for encrypting identifier-payload pairs as needed for a Panel Match Batch Lookup Workflow to be scaled to billions of users through Apache Beam pipelines
- Wrote design documents on the implementation of encryption methods such as Deterministic Commutative Encryption, AES, HKDF, and SHA256
- Utilized Git and GitHub to effectively collaborate with engineers at Google, Facebook, and Amazon

RESEARCH EXPERIENCE

IT Security Lab, Blacksburg, VA - *Undergraduate Researcher*   SEPTEMBER 2021 - PRESENT
- Developing a website using JavaScript and HTML to identify the best data storage options for user's needs

BOLT Electric Motorcycle, Blacksburg, VA - *Controls Subteam Lead*   OCTOBER 2019 - PRESENT
- <u>Controls Lead</u>: Leading the team on a data collection project utilizing CAN, rotary encoders (wheel speed), linear potentiometers (suspension travel), rotary potentiometer (throttle), tire temperature sensors and an inertial measurement unit
- <u>SEC Representative:</u> Attended SEC meetings and events in order to get funding for our team
- Developed a PCB for signals management using Altium Designer, created several wiring harnesses from scratch, aided in high voltage work, worked on aux pack testing, and wrote code for an IMU, wheel speeds, and position sensors

TREC Robotics, Blacksburg, VA — *Undergraduate Researcher*   NOVEMBER 2019 - JANUARY 2021
- Designed a PCB in order to replace a breadboard that sent signals to the DYNAMIXEL motors
- Rewrote Darwin-OP Robot source code so it was compatible with Arduino
- Fixed Darwin-OP so it can walk when it was originally unable to read or write values

LEADERSHIP EXPERIENCE

Society of Women Engineers, Blacksburg, VA - *President*   AUGUST 2019 - PRESENT
- Oversee the section and communicate with company representatives to secure sponsorships and support the officer board in organizing events and piloting new ideas.
- <u>Treasurer:</u> Managed SWE finances and worked closely with the board members to allot money and reimbursements
- <u>EWI Chair:</u> Organized the annual Evening with the Industries event on an online platform due to COVID-19, communicated with company representatives and students to manage registration and bolster interest, and worked closely with the treasurer to handle finances

Galipatia LLC, Blacksburg, VA - *Data Committee Liaison*   AUGUST 2019 - MAY 2022
- Lead and organize committee meetings for the Data Committee, which develops and manages the VT GEMS activities site
- <u>Studio Training Committee Member:</u> Trained individuals within the living learning committee on soldering
- <u>Mentor</u>: Mentored 5 freshmen in study skills, college life and activities, and opportunities within the industry

ACTIVITIES

VTPhil Orchestra Violist, SEPTEMBER 2019 - MAY 2021
UKIRK - Church Ministry Member, SEPTEMBER 2019 - CURRENT
Intramural Volleyball Member, FEBRUARY 2021 - CURRENT
String Quintet Violist, SEPTEMBER 2019 - CURRENT

SKILLS

Technical Java, C/C++, Git, Verilog, Linux, Bazel, Data Structures, Algorithms, Altium Designer, Soldering, C2000, MSP432, Embedded Systems, Python

Non-Technical Public Speaking, Organization, Communication, Self-Motivation, Time Management

LinkedIn