Rakesh Pillai

rakeshpillai@vt.edu ❖ (571) 422-7205 ❖ Fairfax, VA ❖ LinkedIn

EDUCATION

Virginia Tech
2025

- Calhoun Honors Discovery Scholar (Full Tuition, Academic Merit)
- 3.9 GPA
- Major in Computer Engineering with focus on Machine Learning and minor in Computer Science
- Treasurer for Artificial Intelligence and Machine Learning Club
- Company Relations Chair for HackViolet
- Relevant Coursework: Differential Equations, Computational Engineering (C++), Circuits and Devices, Digital Systems, Data Structures and Algorithms

Thomas Jefferson High School for Science and Technology
June, 2021

- 4.33/4.00 (Weighted GPA)
- 1570 SAT (800 Math, 770 English)
- Relevant Coursework: AP Calculus AB & BC, Multivariable Calculus and Matrix Algebra, AP Computer Science A, Parallel Computing, AP Physics C: Mechanics and Electricity and Magnetism

EXPERIENCE

Raytheon **Jun. 2023 – Aug. 2023**
Hardware/Software Mission Assurance

- Hands-on training with cybersecurity tools and techniques for applied ML and security
- Ubuntu, Python, Kali Linux
- Applied static analysis tools (Coverity) to review C++ development
- Ensured verification of embedded code, simulations, and firmware
- Tested quality of finished machined parts, circuit cards, and hardware

Slingshot **Jul. 2020 – Dec. 2020**
Machine Learning Intern

- Used the React Native framework to develop a cross-platform app to collect gesture pattern (swiping, tapping, etc.) data from users
- Learned how to work with React lifecycle methods
- Utilized Firebase platform to authenticate users and store data collected from users
- Analyzed data collected from app using Python and a K-Nearest-Neighbor algorithm

PROJECTS

ddMe **Jul. 2023 - Present**
Full-stack IOS Application

- Developed in SwiftUI with a focus on elegance and ease-of-use
- Utilizes Firebase to store/read user information as well as authenticate mobile users with OTP sent through SMS
- Designed for a Virginia Tech organization to use 1-3 times per week
- Streamlines a once-complicated driving service for students giving and receiving rides to different locations on campus

PolitiLink **Feb. 2023**
Hackathon Project for HackViolet

- Used OpenAI GPT 3 to analyze a paragraph and identify Congress committees that align with the themes of text
- Built Flask server that handles post requests, scrapes websites, and traverses a database of committees
- Won Most Innovative Hack

Irys **Oct. 2021**
Hackathon Project for HackDuke

- Built a web app using Node.js and React
- Constructed a python script using preexisting libraries to track eye movement and determine when the user is distracted from the screen

- Connected the web app to CockroachDB to store collected data
- Won 3rd place in the Health and Wellness track @ HackDuke Code for Good

Pokécounter **Dec. 2021**

Personal Project

- Built a website using the Django framework @ www.pokecounter.net
- Improved CSS, Python, HTML, and JavaScript skills
- Implemented different algorithms and data structures

RESEARCH

Responsible Data Science Lab **Jun. 2023 – Present**

Volunteer

- Exploring adversarial machine learning attacks on large language models
- Weekly meetings discussing research and projects

Mind Music Machine Lab **Feb. 2023 – May. 2023**

Volunteer

- Sonified hand motion sensor data to help people learn how to crochet
- Created poster for Industrial Systems Engineering symposium @ Virginia Tech

CCI Battledrone Competition **Oct. 2021 – Dec. 2021**

Volunteer

- Created a competition for college and high school students across the nation
- Built autonomous drone navigation code in Python
- Gained experience with Linux
- Used 3D printing, soldering, and lab equipment to design the drone kits

SKILLS & INTERESTS

- **Skills:** Java (proficient), Python (comfortable), Web Dev (HTML, CSS, JS) (comfortable), C (comfortable), Verilog (comfortable)
- **Interests:** adversarial machine learning, security, algorithsm, optimization