

Alexander Peal

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EDUCATION

Virginia Tech <i>Bachelor of Science in Computer Science; GPA: 3.88/4.00</i>	Blacksburg, VA <i>Expected Graduation: 2025</i>
Thomas Jefferson High School for Science and Technology <i>AP Scholar with Distinction; SAT: 1520/1600</i>	Alexandria, VA

EXPERIENCE

Undergraduate Researcher <i>Virginia Tech Hume Center for National Security and Technology</i> <ul style="list-style-type: none">Created and tested Python scripts using Random Forest classifiers, XGBoost, and the BERT base model to evaluate the public sentiment regarding the Russia-Ukraine conflict. Achieved an accuracy of 97%.	Blacksburg, VA <i>Jan 2024 – Present</i>
Undergraduate Teaching Assistant <i>Virginia Tech Department of Computer Science</i> <ul style="list-style-type: none">Assisted over 250 students with homework and classwork assignments for CS 2104: Problem Solving in Computer ScienceSupported student learning through in-person office hours as well as one-on-one assistance during lecturesGraded and provided feedback on over 150 assignments and programs per week	Blacksburg, VA <i>Jan 2024 – Present</i>
Lead Software Developer <i>VTHacks</i> <ul style="list-style-type: none">Managed a team of 5 student developers responsible for maintaining the website of Virginia Tech's premier student-run hackathonDeveloped the primary website which was used to advertise the event and register over 1000 studentsCreated a hands-free check-in system using NFC tags that streamlined check-in times by 80%	Blacksburg, VA <i>Jan 2023 – Present</i>
Software Engineer Intern <i>General Dynamics Mission Systems (Secret Security Clearance)</i> <ul style="list-style-type: none">Developed a user interface for an RF block downconverter from scratch using Python, C, and tkinterIntegrated the application with an existing test framework and improved RF test efficiency by 83%Demonstrated software to Department of Defense contractors for a chance to win a multi-million dollar contractMaintained an additional diagnostic tool built using Node.js and HTML for an embedded system, which was tested using Oracle Virtualbox	Manassas, VA <i>May 2023 – Aug 2023</i>
Instructor <i>Fairfax Collegiate</i> <ul style="list-style-type: none">Developed curriculum and led class instruction to groups of up to 20 students in various subjects, including Python, robotics, Algebra II, chemistry, and writing.Contributed to the success of the summer academic program by independently creating two instructional videos.	McLean, VA <i>June 2021 – Aug 2022</i>

PROJECTS

Track Tagger for Spotify <i>Node.js, TypeScript, Next.js, PostgreSQL</i> <ul style="list-style-type: none">Developed a full-stack web application allowing users to catalog their Spotify music libraryDesigned and implemented custom front-end features using Next.jsUtilized PostgreSQL in conjunction with Prisma to manage user data
Chess Pattern Recognition Trainer <i>Python, Node.js, Express.js, Bootstrap</i> <ul style="list-style-type: none">Created a web application to give users real-time feedback on their chess playing using the Stockfish APIPresented the project to an audience of more than 50 people at TJHSST's annual symposium tjSTAR

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, C, HTML, CSS
Libraries/Frameworks: Node.js, Express.js, React.js, Next.js, Bootstrap, Tailwind CSS, tkinter, FastAPI
Developer Tools: Linux, Fedora, Bash, Shell Scripting, Oracle Virtualbox, Git, Version Control, Visual Studio, Docker, .NET, Eclipse