RICHARD NGUYEN

Active TS/SCI with Counterintelligence Polygraph

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Introduction

Aspiring software engineer with a passion for building efficient, user-centered solutions. Experienced in developing backend systems and graphical interfaces, with a strong foundation in data structures and object-oriented programming. Proactive in learning, with hands-on experience from internships and personal projects. Eager to contribute to impactful software development, optimize system performance, and deliver innovative solutions that address real-world challenges.

Education

Virginia Tech | Polytechnic Institute (GPA: 3.87, Major GPA: 3.93)   **August 2022 – December 2025**
Bachelor of Science in Computer Science   *Blacksburg, Virginia*

South County High School (Weighted GPA: 4.30)   **Graduated June 2022**
Advanced High School Diploma   *Lorton, Virginia*

Experience

Defense Intelligence Agency | Active TS/SCI w/ CI Polygraph   **June 2024 – August 2024**
Software Engineer Intern   *Reston, Virginia*
- Designed, developed, and implemented a graphical user interface for managing mesh network instances, improving usability, streamlining deployment processes, and enhancing user interaction, resulting in efficient operations across multiple environments.
- Automated the network setup by creating and integrating custom scripts for flashing radios, configuring parameters, and optimizing deployment, reducing setup complexity and cutting time per node by 30-60 minutes, leading to smoother rollouts.
- Improved overall system efficiency by 60% through meticulous testing, identifying performance bottlenecks, debugging issues, and implementing optimizations to enhance system reliability and ensure high performance across a variety of operational conditions.

CrossRoads Info Tech   **February 2021 – June 2024**
Website Developer   *Lorton, Virginia*
- Collaborated on the development of a company website, focusing on optimizing performance, and implementing best practices, which resulted in 50% faster load times, improved user experience, and more efficient functionality across various platforms and devices.
- Ensured 99.9% uptime of the company website over a 3-year period by effectively managing server maintenance, performing timely updates, and optimizing system performance, utilizing Linux Server OS to maintain stability, reliability, and seamless user access.
- Maintained consistent communication with team members and superiors, ensuring alignment on project goals, addressing potential issues early, and fostering a collaborative and productive work environment that supported efficient project delivery and cohesion.

Projects

ResponseFlow (Hackathon Project)
- Built an AI-powered system that prioritizes critical emergency call incidents using LLMs, enabling dispatchers to make faster, data-driven decisions in real-time scenarios.
- Developed the REST API using Flask to facilitate communication between the AI application and emergency dispatch systems.
- Designed and implemented the user interface, enabling dispatchers to view ranked emergency calls and receive recommendations.

Technical Trading Indicator
- Developed a Indicator Trading system that calculates trading signals using Time Series Visibility Graphs for market data analysis.
- Engineered an algorithm to generate signals based on the positive/negative values of the average shortest path length.
- Achieved a 13% higher performance compared to the S&P 500 benchmark, demonstrating the effectiveness of the algorithm.
- Leveraged Pandas, NumPy, and Yahoo Finance API to process and analyze historical stock data, utilizing ts2vg and NetworkX for constructing Time Series Visibility Graphs, and visualized trading signals with Matplotlib, driving data-driven insights.

BridgeLink
- Developed both the frontend and backend for a B2B platform designed to connect local businesses and advertise services.
- Implemented server-side logic using Python to securely manage and store user data for local businesses.
- Led team meetings, ensuring collaboration between developers, clear communication, and adherence to project milestones.

Pricing European Options Program
- Developed a Java-based program to accurately price European options contracts using the Black-Scholes model.
- Implemented complex calculations for option pricing, volatility assessment, and comprehensive risk management strategies.

Cush: Customizable Shell
- Developed a customizable shell in C, featuring job control, process management, and robust signal handling for enhanced functionality.
- Implemented terminal state management and job scheduling using POSIX system calls to ensure multitasking and reliability.

Skills

Languages: Java, C, Python, x86_64 Assembly, RISC-V (Assembly ISA), Bash, HTML/CSS, Javascript

Tools: Git, Valgrind, Linux, Windows, IntelliJ IDEA, Postman, React, Visual Studio Code

Concepts: Object-Oriented & Systems Programming, Data Structures & Algorithms, Agile Development, Waterfall Methodologies

Soft Skills: Collaboration, Communication, Deadline Management, Problem-Solving, Resilience, Analytical Thinking