Rodney Okyere

Woodbridge, VA | okyerero19@vt.edu | (703) 634-8006 | *https://linkedin.com/in/rodney-okyere*

Education

Virginia Tech

M.S. Computer Science & Applications   Aug 2023 – May 2025 (GPA: 3.52)

Advisor: Dr. Sang Won Lee

Thesis: REACTING TO...: Understanding The Motivations, Participatory Culture, and Spectatorship Behind Reaction Videos

B.S. Computer Science   July 2019 – May 2023 (GPA: 3.65)

Experience

Echolab at Virginia Tech   Blacksburg, VA

Graduate Research Assistant   Aug 2023 – May 2025

• **Researched** and **authored a thesis**, "REACTING TO...: Understanding The Motivations, Participatory Culture, and Spectatorship   Behind Reaction Videos,"

Undergraduate Research Assistant   Aug 2021 – May 2023

• Developed "MultiTube," an interactive platform using HTML, JavaScript, Bootstrap, and YouTube's API to enable simultaneous viewing and manipulation of multiple video streams

Virginia Tech Department of Computer Science   Blacksburg, VA

Graduate Teaching Assistant (Data Structures & Computer Systems)   Aug 2023 – May 2025

• Led weekly office hours (3x/week) and lab sessions, mentoring students in debugging and mastering key programming concepts like **linked-lists**, **stacks**, **queues** and **recursion**.

• Led technical mentorship in project help sessions, clarifying foundational computer architecture topics including **RISC-V assembly**, **processor datapaths**, and **memory hierarchies**.

• Supervised student implementation and debugging of **assembly programs** on **Linux VMs**, promoting best practices in **low-level programming**.

Raytheon Intelligence & Space   Dulles, VA

Systems Engineering Intern   June 2023 – Aug 2023

• Led the management of VMware vSphere environments (vCenter, ESXi) to support **server virtualization** and resource optimization.

• Proactively **resolved system-level network** and authentication issues, **restoring client machine connectivity** and maintaining operational uptime.

• **Tested and validated system configuration** changes prior to deployment, ensuring seamless functionality across production and test environments.

• Administered and **secured enterprise infrastructure**, maintaining tools including SIEM, firewalls, vulnerability scanners, DLP, and AV software in alignment with program security goals.

• Owned **system administration tasks** across Active Directory, Registry Editor, WSUS, and GPOs, ensuring compliance with DoD STIG requirements.

• Imaged and **configured physical servers and VMs** using RHEL and Windows Server 2012 R2 in both lab and production settings.

• Analyzed ACAS **vulnerability reports for large-scale environments**, prioritizing patches to harden systems against known threats.

• **Automated routine tasks using PowerShell and Bash,** improving system efficiency and reducing manual overhead.

• Maintained system integrity through **regular file management**, including **software packaging**, **versioning**, and cleanup processes.

Projects

PAER: Peer-AI Editing Repository   Spring 2025

https://github.com/wooogler/paer

• Built a full-stack web app for collaborative writing and peer editing with **AI**.

• Integrated **GPT-4o (OpenAI API)** to provide **real-time**, **context-aware writing suggestions**.

• Developed a **three-pane UI** in **React** and **Tailwind CSS**: navigation, document editor, and AI chat.

• Ran **user interviews to gather feedback** and refine UI based on usability insights.

• Built and **deployed backend** with **Fastify** and **MongoDB** using Railway.

Music Diary   Fall 2024

https://github.com/MusicDiaryDB

• Built a platform for logging daily songs, generating music diary reports, and connecting users in a music-focused community.

• Developed **user authentication endpoints** using **Python**, **Flask**, and **JWT** for secure access control.

• Created front-end pages (login, registration, settings) with **React** and **TypeScript**.

• Integrated **PostgreSQL** with psycopg2 for reliable data storage and **backend-frontend communication**

Skills & Interests

Languages: Python, C, C++, C#, Java, JavaScript, HTML, Kotlin, SQL, LaTeX, Bash, RISC-V Assembly
Databases: PostgreSQL, MongoDB, Microsoft SQL Server

Software & Tools: Windows, macOS, Linux, Bootstrap, React, Docker, Flask, OpenAI API, Bootstrap, Git, Miro, Sonix.AI

Relevant Coursework: CS 6724: Advanced Topics HCI - Human-AI Interaction, CS 5754: Virtual Environments, CS 5734: Social Computing and Computer - Supported Cooperative Work, CS 5614: Database Management Systems, CS 5254: Mobile Application Development, CS 5114: Theory of Algorithms, CS 4644: Creative Computing Studio, CS 3724: Introduction to Human-Computer Interaction