Rodney Okyere

Woodbridge, VA | okyerero19@vt.edu | 703 634 8006 | | linkedin.com/in/rodney-okyere |

Education

Virginia Tech Aug 2023 – May 2025
M.S. Computer Science & Applications

- Advisor: Dr. Sang Won Lee
- Thesis: REACTING TO...: Understanding The Motivations, Participatory Culture, and Spectatorship Behind Reaction Videos
- Overall GPA: 3.52

B.S. Computer Science July 2019 – May 2023

- Overall GPA: 3.65
- In-Major GPA: 3.39

Experience

Echolab at Virginia Tech - Blacksburg, VA
Graduate Research Assistant Aug 2023 – May 2025

- Conducted thesis research titled "REACTING TO...: Understanding The Motivations, Participatory Culture, and Spectatorship Behind Reaction Videos," and successfully defended it.
- Leveraged Sonix.AI for transcription and thematic analysis, utilizing Miro for axial coding sessions to identify and interpret key patterns and themes.

Undergraduate Research Assistant Aug 2021 – May 2023

- Developed "MultiTube," an interactive platform enabling users to view and manipulate multiple video streams simultaneously.
- Implemented the platform using HTML, JavaScript, Bootstrap, and YouTube's API, allowing users to search, add, and control videos.
- Transitioned research focus in Spring 2022, setting the foundation for thesis work.

Virginia Tech Department of Computer Science - Blacksburg, VA
Graduate Teaching Assistant (CS 2114: Software Design & Data Structures Aug 2024 – May 2025
Graduate Teaching Assistant (CS 2506: Introduction to Computer Organization II) Aug 2023 – Dec 2023

Raytheon Intelligence & Space - Dulles, VA
Systems Engineering Intern June 2023 – Aug 2023
Hardware & Infrastructure Engineering Intern May 2022 – Aug 2022

Projects

PAER: Peer-AI Editing Repository Spring 2025
`https://github.com/wooogler/paer`
CS 6724: Advanced Topics HCI - Human-AI Interaction Final Course Project

- Developed a full-stack web application designed to streamline collaborative writing and peer editing through integrated AI assistance.
- Integrated OpenAI APIs (GPT-4o) to provide real-time, contextually-aware suggestions and analogies directly within the writing environment, significantly enhancing workflow efficiency.
- Conducted formative user studies through semi-structured interviews, validating user preferences and refining interface design for optimal usability.
- Employed MongoDB and Fastify for robust backend functionality, with deployment managed through Railway.

Music Diary Fall 2024
`github.com/MusicDiaryDB`
CS 5614: Database Management Systems Final Course Project

- Developed a music discovery and logging platform that allows users to log daily songs, generate personalized

diary reports, and engage with a community of music enthusiasts.

- Collaborated with a team of four to deploy a scalable, interactive application, utilizing Docker for environment setup and GitHub for version control.

Online Learning Productivity Station Spring 2024

CS 5754: Virtual Environments Final Course Project

- Collaborated on the development of a Virtual Reality (VR) application aimed at enhancing productivity and engagement in online learning environments.
- Participated in user studies to evaluate the effectiveness of the VR setup in improving task completion speed and user comfort compared to traditional learning environments
- Presented findings that demonstrated the potential of VR in creating immersive and distraction-free educational spaces, contributing to the field of virtual learning environments.

Inspecting Dynamics in Discord Communities Fall 2023

CS 5734: Social Computing and Computer-Supported Work Final Course Project

- Collaborated on and conducted a comprehensive study on Discord's impact in fostering online communities that transcend physical and temporal boundaries.
- Assisted in conducting and analyzing interviews with Discord users to understand group and individual dynamics within these communities.
- Presented findings that highlighted Discord's effectiveness in building and maintaining online communities, contributing to the broader discourse on digital social platforms.

Disc.: Music Discovery Platform Spring 2023

`https://disc-music.com/`
`github.com/Discovery`

CS 4644: Creative Computing Studio Capstone Project

- Developed a web application, "Disc.," facilitating daily music discovery and community engagement through a "Song of the Day" feature inspired by BeReal.
- Engineered using ReactJS for the front end, Node.js for server-side operations, and MongoDB for data management, integrated with MongoDB Atlas on AWS.
- Presented the project at the Virginia Tech Undergraduate Research Symposium, highlighting its alignment with themes in Computer Music and Programming as a Creative Practice.

Project Fellowship Fall 2021

CS 3724: Intro to Human-Computer Interaction Final Course Project

- Collaborated on the development of a virtual roommate-matching platform based on existing massive multiplayer online role-playing game (MMORPG) interfaces to reduce isolation and improve housing experiences for students.
- Conducted user interviews and created personas to identify core issues in roommate communication, applying user-centric design principles to address diverse student needs across academic and working situations.
- Designed and iterated high-fidelity wireframes and prototypes using Balsamiq, focusing on the profile creation suite and in-app interaction flows.
- Led prototype evaluations, including heuristic analyses and pilot testing, to refine usability and engagement metrics.

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