

Nelson Rodriguez

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EDUCATION

Georgia Institute of Technology

Atlanta, GA

Bachelor of Science in Computer Science

Graduated: December 2023

- *Relevant Coursework:* Data Structures and Algorithms, Design and Analysis of Algorithms, Database Systems, Database Technologies and Applications, Software Engineering, Object-Oriented Programming, Computer Networks, Computer Architecture, Information Visualization, Information Security, Linear Algebra
- *Concentrations:* Information Networks & Media Applications

PROJECTS

YouTube NLP Sentiment Analysis | *NLTK, Python, Django, React*

August 2024 - Present

- Developed a YouTube video sentiment analysis web application using Django and Python, integrating NLTK for natural language processing to analyze and interpret comments and metadata from videos.
- Created React front-end for YouTube URL Input and real-time sentiment analysis results

Nexus — Blogging Web App | *React, Node.js/Express.js, MongoDB*

June 2024 - July 2024

- Utilized React Hooks and Context API for state management, ensuring efficient data flow and page rendering
- Leveraged Express.js/Node.js and MongoDB to create REST API that facilitates data fetching and post operations
- Optimized performance through session management with JWT and employed efficient data fetching with Axios
- Implemented secure user authentication using bcrypt algorithm for salting + hashing and MongoDB for storage

eKlozet — Sustainable Fashion Mobile App | *Swift, SQL, Xcode*

August 2022 - December 2022

- Developed sustainable fashion iOS mobile app in a team of student developers, employing Agile methodology
- Developed collaborative-filtering algorithm for outfit recommendations and designed preference screening in Swift
- Integrated MySQL database to facilitate user authentication and clothing recommendation functionality, enhancing the application's ability to dynamically present clothing items directly to 5000+ users
- Won 2nd place in the Fall 2022 Georgia Tech CS Junior Design Capstone Expo out of 30+ teams

Running Sonification Engine | *Java, Processing*

June 2023 - July 2023

- Developed a dynamic audio-based running simulator that transforms sensor data such as cadence, heart rate, and other physical metrics into real-time actionable feedback/sonifications, enhancing runner performance
- Achieved a 75% increase in runner performance measured by responses to engine performance in research analysis

Hypertension and Stroke Analysis | *Python, NumPy, Pandas*

April 2023 - May 2023

- Analyzed diabetes, hypertension, and stroke datasets from Kaggle using NumPy, Matplotlib, and Pandas Python libraries to research and visualize the level of correlation between variables for medical research analysis.
- Achieved correlation coefficient of 0.84, indicating a strong relationship between measured health conditions

EXPERIENCE & LEADERSHIP

Client-Facing Software Developer

Atlanta, GA

eKlozet- Atlanta Sustainable Fashion Week

August 2022 – December 2022

- Developed iOS app for client Tanjuria Willis with a team of student developers featuring a collaborative-filtering algorithm for recommendations and SQL database for user CRUD functionality, serving over 5000 users
- Proficiently used Git/GitHub to manage code versioning and helped coordinate team responsibilities

GT WebDev

Atlanta, GA

Georgia Tech Student Organization Member

August 2021 – December 2022

- Contributed to collaborative web application for GT WebDev w/ student-led teams by developing Material UI/UX features and managing code versioning to ensure seamless integration across app components
- Organized and hosted multiple front-end workshops and seminars, measured by a 50% increase in attendance

SKILLS

Languages & Frameworks: Java, JavaScript, React, Python, Swift, HTML/CSS, C, Assembly, SQL/SQLite

Developer Tools: Git/GitHub Desktop, GitHub Copilot, Terminal/Powershell, VS Code, L^AT_EX, Processing, Xcode

Organizations & Activities: GT WebDev, GT Design Club, JSA, Football/Soccer, Running, Resistance Training

Natural Languages: English (Native), Spanish (Fluent), Japanese (Basic/Conversational)