First Last

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EDUCATION

University of North Georgia   Dahlonega, GA
Bachelor of Science in Computer Science   *Jan 2020 – Dec 2023*

EXPERIENCE

Data Science Intern   June 2023 – Present
Small Space and Defense Company   *Huntsville, AL*
- Developed an Optical Character Recognition (OCR) system that accurately identifies and isolates text regions in images and videos, resulting in efficient text extraction and recognition
- Implemented image processing techniques such as edge detection, binarization, dilation, erosion, and filtering, which enhanced the accuracy of text region identification and improved the overall performance of the OCR system
- Designed a stability check mechanism for video processing that selects consistent regions of interest across frames, ensuring reliable text recognition and significantly reducing the impact of noise and temporary artifacts in videos
- Refined the detection of text regions in the OCR system by adjusting the coordinates based on the actual content of the region, ensuring that the region tightly encompasses the text and improving the precision of text extraction

PROJECTS

Dynamic Discord Music Bot | *github.com/FirstLast/ProjectName*   May 2022 – Present
- Conceptualized and developed an interactive Discord Music Bot for over 1,000 users across 200+ servers, demonstrating proficiency in Python and effective development skills
- Engineered a user-friendly interface with pausing, skipping, and playlist features, and extended the Discord Python library to customize button properties
- Incorporated asynchronous programming techniques for rapid responses, ensuring efficient performance
- Integrated the YouTube and Spotify APIs for multi-platform playback, exemplifying adeptness in API utilization and enhancing user experience

Server-Controlled Minecraft Bots | *github.com/FirstLast/ProjectName*   Jan 2023 – Present
- Developed an efficient Minecraft bot using Java and Lua, automating gameplay actions like mining and showcasing programming versatility
- Employed WebSocket protocol and Google Gson library for bidirectional communication and data manipulation between client and server
- Enhanced system control by dispatching JSON messages to manage bot movements and inventory, coupled with efficient algorithms to optimize bot's efficiency
- Utilized JSON data to generate a 3D visualization of surveyed blocks using JavaFX

Pathfinding Algorithms Visualizer | *University of North Georgia*   March 2023 – May 2023
- Developed a comprehensive Pathfinding Algorithms Visualizer using Python, demonstrating advanced understanding of algorithmic concepts and Python programming skills
- Implemented various pathfinding algorithms such as A*, Dijkstra's, and Breadth-First Search, providing users with a broad range of algorithmic solutions to compare and understand
- Designed an intuitive user interface that allows users to interactively set start and end points, place obstacles, and choose the algorithm for visualization, enhancing user engagement and learning experience
- Optimized the performance of the visualizer to ensure smooth and real-time visualization of the pathfinding process, demonstrating proficiency in performance optimization techniques

2048 Game Clone | *University of North Georgia*   Oct 2022 – Dec 2023
- Collaborated with a team of three to develop a clone of the popular game 2048 using Java
- Implemented key game features such as the grid, tile movement, and tile merging
- Created a working leaderboard, a victory screen, and a dynamic UI that depends on phone orientation
- Developed and communicated with a team of 2 others over GitHub and Teams
- Successfully delivered a completed, fully-functional version of the game on time and to the satisfaction of the team

TECHNICAL SKILLS

Languages: Java, Python, C#, JavsScript, C++
Technologies: Git, Docker, Juptyer Lab, IntelliJ