NICK CYRAN

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EDUCATION

University at Albany - SUNY   August 2022 - December 2025
Bachelor's, Computer Science   *GPA: 3.85*
- Minors: Informatics and Math
- Honors: Dean's List (Fall 2022 - Spring 2025)
- Relevant Coursework: Software Engineering; Data Structures; Database Systems; Computer Architecture; Computer Networks; Operating Systems; Cryptography; Computer Vision

PROJECTS

Line-Level Handwritten Text Recognition - *Link to project*   *January 2025 - May 2025*
- Built an offline HTR system, in python using pytorch, using CRNN and CTC loss to transcribe scanned handwritten lines without needing aligned labels.
- Added a preprocessing pipeline with data augmentation to boost accuracy on the IAM Handwriting Dataset.
- Achieved ~1.6% CER and ~6.5% WER on validation data.
- Developed a clean, modular codebase with a CLI interface for training, prediction, evaluation, and visualization.

Operating System Emulation - *Link to project*   *August 2024 - December 2024*
- Developed a complete OS simulation in Java with support for preemptive multitasking, virtual memory with paging, and priority-based process scheduling.
- Implemented system calls, memory management (including TLB and swapping), inter-process communication, and a virtual file system.
- Showcases core OS concepts including kernel/user space abstraction, hardware simulation, and concurrency control.

Grouper: Messaging App - *Link to project*   *January 2024 - May 2024*
- Developed "Grouper," a dynamic web-based messaging application implementing a responsive, user-friendly front-end with React, and handling real-time data processing and storage with MongoDB.
- Managed all phases of the SDLC, from requirements gathering and design to development, testing, and deployment.
- Employed Agile methodologies, including Scrum, facilitating iterative development and continuous improvement.
- Collaborated with cross-functional teams to gather requirements, define user stories, and prioritize features.

32-bit Computer Emulator - *Link to project*   *January 2024 - May 2024*
- Developed an emulator for the SIA-32 chip architecture, with 4KB of main memory, in Java.
- Built a caching mechanism to interact with the virtual ram more efficiently.
- Created a custom assembly language to interface with the emulated hardware in a more straightforward manner.

Portfolio Website - *Link to project*   *January 2024 - January 2024*
- Developed a dynamic portfolio website using React, Node.js, and JavaScript to exhibit computer science projects in an interactive appealing manner.
- Applied CSS for a modern design and responsiveness across various devices.
- Integrated Three.js for 3D graphics, demonstrating proficiency in advanced web technologies.

AWK to Java Interpreter - *Link to project*   *August 2023 - December 2023*
- Utilized lexical analysis to tokenize AWK code into meaningful components.
- Developed a parser to generate an abstract syntax tree (AST) from parsed AWK code.
- Translated the AST nodes into the equivalent Java code ensuring compatibility between languages.
- Integrated error handling mechanisms for efficient debugging.

Achievements

Hack-a-Damien Hackathon 2024 - 1st Place - *Link to project*
- Led programming efforts for a team of 4 to develop a game using the Godot engine, overseeing the technical aspects.
- Achieved 1st place in the competition, demonstrating teamwork capabilities as well as problem solving skills.

SKILLS

- **Skills:** Java, Python, C/C++, JavaScript, React.js, HTML/CSS, Bash, Linux/Unix, Agile, Object Oriented Programming, Decision-making, Creativity, Problem solving
- **Interests:** Game development; Art; Music; Cooking