NICOLAS CYRAN

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EDUCATION

University at Albany - SUNY ***Aug 2022 - Dec 2025***

Bachelor's, Computer Science *GPA: 3.85*

- **Minors:** Informatics and Math
- **Honors:** Dean's List (Fall 2022 - Spring 2025)
- **Relevant Coursework:** Software Engineering; Database Systems; Computer Algorithms; Data Structures; Computer Architecture; Computer Networks; Operating Systems; Cryptography; Computer Vision

SKILLS

Java; Python; C/C#; JavaScript; React.js; Node.js; Spring Boot; PyTorch; HTML/CSS; Tailwind; Bash; Git; Object Oriented Programming; Unit Testing; Problem Solving; Teamwork

EXPERIENCE

LovEnergy - *Software Engineer Intern* ***Aug 2025 - Present***

- Collaborated within a team of 4 engineers to develop and maintain a SaaS energy optimization platform built with Java, Spring Boot, React, and AWS.
- Designed and developed a back-end system using Java to automatically generate and export user-specific energy analysis reports.
- Enhanced front-end stability and UX by resolving pre-existing issues in the codebase using React.js and Node.js.
- Managed code contributions and version control for bug fixes and new features using Git in a collaborative environment.

PROJECTS

Line-Level Handwritten Text Recognition - *Link to project* ***Jan 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% character error rate (CER) and ~6.5% word error rate (WER) on validation data.
- Developed a clean, modular codebase with a CLI interface for training, prediction, evaluation, and visualization.

Operating System Simulation - *Link to project* ***Aug 2024 - Dec 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* ***Jan 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.
- Collaborated with 4 peers, defining user stories, and prioritizing features.
- 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.

32-bit Computer Emulator - *Link to project* ***Jan 2024 - May 2024***

- Developed an emulator for the SIA-32 chip architecture, with 4KB of main memory, in Java.
- Built a multi-layered caching mechanism to interact with emulated RAM more efficiently.
- Created a custom assembly language to interface with the emulated hardware.

AWK Interpreter - *Link to project* ***Aug 2023 - Dec 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, despite the 24 hour timeframe demonstrating decision-making and problem solving.