

Derek Corniello

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EDUCATION

University of Cincinnati, Cincinnati, Ohio

Expected Graduation: May 2027

Bachelor of Science, Computer Science

GPA: 3.9

Master of Engineering, Software Engineering

Relevant Courses: Data Structures and Algorithms, Computer Networks, Software Engineering, OS and Systems Programming

SKILLS

Languages: Python, Go, Rust, Java, C/C++, C#, SQL

Development Tools: git, neovim, Linux, Docker, AWS, SQLite, PostgreSQL, Unity

EXPERIENCE

Siemens Digital Industries Software | Software Engineering Intern

January 2024 – Present

- Collaborated with 3 cross-functional teams to design, develop, and test over 10 innovative software solutions
- Built REST APIs with sub-millisecond responses, operating on 100,000+ database entries efficiently on dozens of endpoints
- Implemented AI features using RAG, embeddings, graphs and ETL pipelines, enhancing LLM efficiency and accuracy
- Administered over 200 pages of documentation of projects, facilitating seamless knowledge transfer and collaboration

University of Cincinnati College of Engineering and Applied Science | Teaching Assistant

August 2023 – Present

- Translated programming topics into digestible lessons, mirroring real-world software documentation and collaboration
- Mentored 75+ students per semester, providing technical guidance and debugging support to reinforce learning
- Established habits for reliable and timely execution, maintaining communication and proactively addressing challenges
- Coordinated with instructors and peers to refine course materials, aiding in curriculum updates and the creation of resources

PROJECTS

8 Bit Beats | [8BitBeats - crates.io](https://8BitBeats-crates.io) (800+ Downloads) | Rust, Terminal, Audio DSP

- A terminal-based chiptune generator with deterministic audio synthesis and real-time playback control
- Authored a multi-threaded audio generation system, using algorithms to create unique tracks in about 200 milliseconds
- Built a dynamic TUI with real-time controls, enabling users to create, preview, and replay 8-bit songs from seed IDs

Pip Requirements Validator | reqinspect.com (50+ Daily Users) | Go, Vue.js, AWS, File I/O

- An efficient and comprehensive web tool for developers to validate and troubleshoot all packages in requirements.txt files
- Prepared a Go REST API capable of handling over 100,000 concurrent requests with robust error handling and scalability
- Implemented a dynamic frontend, enabling responsive uploads with less than 100 millisecond latency for seamless UX

gitcmd | [gitcmd - crates.io](https://gitcmd-crates.io) (2,000+ Downloads) | Rust, Terminal, File I/O

- A customizable terminal designed to simplify and automate tedious git operations, improving workflow efficiency
- Developed a highly efficient application for automating git tasks in around 10 microseconds of processing time
- Engineered low-level workflows, innovating on and integrating services and customization on top of traditional git

AWARDS AND LEADERSHIP

Institute of Electrical and Electronics Engineers: Eta Kappa Nu Honors Society – Executive Officer

October 2024 – Present

Dean's List

August 2023 – Present

Cincinnati Scholar

August 2023 – Present