**Ryan Caudill**

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**EDUCATION**

**University of South Carolina**  *Columbia, SC*

***B.S. in Computer Science |*** *Artificial Intelligence Concentration | Spanish Minor***Expected Graduation May 2026**

**Awards:** Dean’s List, Capstone ScholarMajorGPA: 3.55

**Relevant Coursework**: Computer Networking, Data Structures and Algorithms, Software Engineering, Robotics, Artificial Intelligence, Machine Learning Systems, Operating Systems, Big Data Analytics

**WORK EXPERIENCE**

**Software Engineering Teaching Assistant** *Columbia, SC*

*University of South Carolina***Jan 2024 - Present**

* Designed and implemented comprehensive system architectures for a Language Learning Application, Degree Planning Software, Music Creation Program, and Digital Escape Room in JavaFX
* Provided strategic leadership to32 development teams, setting a clear direction and fostering collaboration to meet key project milestones effectively and on time.
* Organized and conducted consulting sessions to provide guidance on system design, refine business proposals, and address technical challenges twice a week.
* Facilitated detailed bi-weekly code reviews as part of 2-week sprint cycles, ensuring high-quality code, adherence to best practices, and consistent progress toward project objectives.

**Software Engineer Intern** *Columbia, SC*

*South Carolina Department of Transportation***May 2025 – Aug 2025**

* Automated OSHA injury report submissions by transforming SQL Server data into JSON and integrating with the OSHA ITA API, cutting report time from 7 days to 15 seconds
* Developed a Blazor web app with spreadsheet-style SQL Server editing, improving data accuracy and enabling faster updates by non-technical staff.
* Built a LangChain demo in Python showcasing LLM Agents for natural language SQL query generation.
* Maintained and modernized legacy web applications, improving usability for internal teams.

**PROJECTS**

***Dermalite*** *(Python, TensorFlow Lite, Swift, XAI, ResNet)* **Sep 2025 - Present**

* Developing a quantized CNN-based mobile AI system for skin lesion classification, enabling on-device, real-time predictions for early detection.
* Integrating Grad-CAM visualizations to highlight suspicious regions, improving interpretability and trust for clinical decision-making.

***Synchro*** *(TypeScript, React Native)* **Sep 2025 - Present**

* Creating the core back-end infrastructure for a cross-platform mobile application using TypeScript, focusing on creating scalable, high-performance APIs to support front-end functionality for GoSynchro.io.
* Spearheading team-wide code quality and consistency by serving as the designated code reviewer, establishing best practices to ensure delivery of a robust and maintainable React Native application.

***TA Auto grader*** *(Python****,*** *Django, FastAPI, PostgreSQL, Docker, Railway)* ***Jul 2025 - Sep 2025***

* Built an autograding platform with a Django frontend, FastAPI backend, PostgreSQL, and a CI/CD pipeline to analyze student GitHub repositories for software engineering assignments.
* Integrated SpotBugs, Google Gemini, and custom rule-based checks with support for both local LLMs and fine-tuned models to detect coding patterns and enforce assignment guidelines.
* Designed a flexible grading system that applies deductions based on instructor-defined rules (e.g., use of disallowed libraries), generating detailed feedback reports automatically.

**SKILLS**

***Tools:*** Git/GitHub, MATLAB, SQL Server, PostgreSQL, Docker, TensorFlow, Azure, Raspberry Pi, Ubuntu, Hadoop

***Languages:*** Java, C++, C#, Haskell, Python, Bash, Powershell, Swift, TypeScript, Rust

***Frameworks:*** FastAPI, JavaFX, Django, .NET, LangChain, React Native