

Conor Jones

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GitHub: github.com/ConorJones05

Education

University of North Carolina at Chapel Hill

B.S. Statistics and Analytics; B.S. Computer Science; Minor in Information Systems

(Expected December 2026)

- **Senior Thesis:** *Neuro-symbolic Assessment of Handwritten Memory Diagrams via Counterfactual Execution*

- Developing a framework to evaluate student-drawn memory diagrams using neuro-symbolic AI; implementing counterfactual execution to identify logical gaps in mental models of computer memory.

Rowan-Cabarrus Community College

A.A. Liberal Arts

(May 2023)

Publications & Manuscripts

- **Jones, C.**, Izzi Hinks. *The Linguistic Signature of Novice Programmers: Quantifying Self-Explanation in Code Comments.* (Ready for Submission).
- **Jones, C.**, Izzi Hinks. *"Is This My Code?": A Telemetry-Driven Analysis of Student Engagement with Personalized, AI-Generated Study Guides.* (In Progress: Data Collection Phase).

Research Experience

Undergraduate Researcher – AI & Education

Chapel Hill, NC

Aug 2025 – Present

- Investigating Human-AI interaction in CS education; quantifying self-explanation patterns in code comments to identify linguistic markers of programming proficiency.
- Analyzing student engagement with AI-generated guides; managing telemetry data collection (scroll depth, clickstream) for 850+ students in **COMP 110**.
- Released open-source PyPI package for automated Gradescope data collection using multithreading and encrypted storage for FERPA compliance.
- Deployed pilot study with 45+ students; successfully navigated IRB protocols for scaling to 1000+ participants.
- Tools: Python (FastAPI, Pandas), NextJS, SQL, IRB protocol design.

Research Assistant – Carolina Institute for Neurocognition & Imaging

Chapel Hill, NC

Oct 2024 – Aug 2025

- Processed 20GB+ fMRI datasets using Python, FSL, and MATLAB to model Default Mode and Dorsal Attention Networks.
- Designed low-cost, open-source eye-tracking system (GoPro + IR light) to measure attention and cognitive load; presented visuals to Boston University Neurostimulation Lab.
- Built reproducible preprocessing workflows adopted across multiple lab projects.

Research Assistant – Carolina Institute for Neurostimulation

Chapel Hill, NC

Aug – Oct 2024

- Developed behavioral tracking tools logging accuracy/reaction time for integration with network-level analyses.
- Worked on evaluating the feasibility of using BERT signals in closed loop attention state applications.

Teaching Experience

Undergraduate Teaching Assistant – UNC Chapel Hill

Chapel Hill, NC

Spring 2024 – Present

- **Lead TA for COMP 301 (Design Patterns):** Coordinated materials team and redesigned assignments to mitigate AI-driven plagiarism through structural changes.
- Supported instruction for **COMP 110, COMP 283, POLI 281**; guided 1200+ students in debugging and review.
- Authored tutorials on Git, version control, ML, and PyGame, used by 100+ students in Hack110.

Leadership & Technical Skills

Student Technology Council: Advise campus IT on AI classroom policy and learning platform recommendations.

Technical Skills: Python (FastAPI, Pandas), R, SQL, FSL, Java, TypeScript, NextJS, Git, Linux.

Research Methods: User studies, survey design, experimental design, IRB protocols, Neuro-symbolic AI.