Caleb Erickson

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Education

Master of Business Administration, Concentration in Business Analytics *August 2023 - May 2027*
The University of Alabama, Tuscaloosa, AL

Bachelor of Science in Computer Science *August 2023 - May 2026*
The University of Alabama, Tuscaloosa, AL

- GPA: 4.0/4.0
- Most Outstanding Junior
- Honors College
- STEM to MBA Program
- President's List

Skills

- **Languages:** Python, C++, C, Javascript, Typescript
- **Databases:** PostgreSQL, SQL Server, MongoDB, Cosmos DB, Milvus, Neo4j
- **Tools:** Git, AWS, Azure, Docker
- **Frameworks:** Django, Flask, React.js, Next.js, Node.js
- **Libraries:** NumPy, Pandas, Matplotlib, Scikit-learn

Experience

QuantHub *August 2025 - Present*
Software Development Intern

- Developed and integrated AI-driven lesson modules within a web application platform, leveraging AI pipelines to deliver interactive learning experiences

Alabama Artificial Intelligence Institute *May 2025 - Present*
AI & ML Research Intern

- Built autonomous pipeline to integrate 5 multidomain, federal datasets into single, 50K node knowledge graph
- Developed an RAG framework integrating vector embeddings, LLMs for NLP, and knowledge graphs to reduce hallucinations in model output
- Engineered a full-stack web-application to enhance AI data storytelling, used across 4 UA and UMBC classes
- **Tools:** Azure, Python, LLMs, RAG, Knowledge Graphs, NumPy, Pandas, Matplotlib, Scikit-learn

Projects

Mockstreet Stock Exchange*, mockstreetexchange.com* *March 2025*

- Developed a mock stock exchange platform that enabled users to simulate trades and manage portfolios with real-time data via the Yahoo Finance API
- **Tools:** AWS, PostgreSQL, React.js, Node.js, Yahoo Finance API

Number Prediction Neural Network*, numbers-beige.vercel.app* *April 2025*

- Designed and trained a custom convolutional neural network to recognize handwritten user input digits on a browser-based 28x28 grid, achieving a 96.4% accuracy on the MNIST dataset
- **Tools:** Python, Numpy, Flask, React.js, Axios

Portfolio with All Projects*, caleberickson21.github.io*

Publications

- *Enhancing Flood Risk Communication through Semi-Automated Ontology Framework,* **Water (Hydrology Special Issue)** - under peer review *August 2025*
- Unifying Flood-Risk Communication, **Hydrology** - *doi.org/10.3390/hydrology12080204* *August 2025*

Involvement

- Alabama AI Club*, Developer and Executive Officer* *August 2024 - Present*
- Alabama Software Development Club*, Member* *August 2023 - Present*