

Troy Conner Allen

407-456-0344 | troycallen.dev@gmail.com | github.com/troycallen | linkedin.com/in/troycallen

Education

- Georgia Institute of Technology** – MS in Computer Science (3.86/4.00 GPA) Expected Dec 2025
- Coursework: Natural Language Processing, Machine Learning, Artificial Intelligence, GPU Hardware and Software
- Georgia Institute of Technology** – MS in Analytics (3.78/4.00 GPA) Aug 2022 – Aug 2024
- Florida State University** – BS in Computer Science (3.81/4.00 GPA) Jun 2017 – May 2021

Experience

- Software Engineer Intern**, Conduent – Atlanta, GA Aug 2025 – Present
- Building AI/ML models for automated vulnerability detection using Python, Wiz, and Rapid7 to enhance security posture for 500+ government and Fortune 100 clients
- Graduate AI Researcher**, Georgia Institute of Technology – Atlanta, GA Aug 2025 – Present
- Developing open-source toolkit for optimizing performance and energy consumption of local LLM deployments
- Software Engineer Intern**, Trideum Corporation – Atlanta, GA Dec 2024 – Aug 2025
- Engineered multimodal AI platform capable of processing 290,000+ files using NLP, computer vision, and CUDA with 12+ Docker microservices in Python for government data analysis
 - Built hybrid search system using BM25 and Milvus vector database with sub 500-ms response times
 - Implemented metadata and filtering system enabling search across BERTopic clusters, file types, dates, authors, etc.
 - Enhanced BERTopic clustering performance 2x through batch processing with PyTorch and POSIX threading
- Machine Learning Engineer Intern**, Shepherd Center – Atlanta, GA May 2024 – Dec 2024
- Developed neural network architecture for pressure ulcer prediction in spinal cord injury patients achieving 93% accuracy using Python/PyTorch with performance optimization
 - Reduced API response time 60% by implementing containerized Flask endpoints with Redis caching
 - Built real-time clinical dashboard processing 400+ patient datasets using machine learning pipelines with scikit-learn
- Research Assistant**, Florida State University – Tallahassee, FL Jan 2019 – May 2022
- Secured \$289k NIJ research grant by designing database schema and framework for mass shootings analysis
 - Reduced research time by 20 weeks by creating OCR/NLP pipeline in C++ for data extraction with OpenCV
 - Pioneered hate speech detection pipeline using fine-tuned BERT models with 95% accuracy on 50K+ messages
- Lead Teaching Assistant**, Florida State University – Tallahassee, FL Jul 2020 – Dec 2020
- Achieved 100% student satisfaction rating by developing and grading all coursework for 75+ students in C++

Projects

- LitRA** | Python, GPT, Llama, Next.js, NLP
- Built AI literature review assistant with concept mapping interface for research paper exploration and synthesis
- Goaldle** | Python, OpenCV, Computer Vision, TypeScript, React
- Engineered Wordle-inspired game using computer vision to blur soccer players for daily guessing challenges
- Memory Allocator** | C++, Assembly, Cache Optimization
- Developed dynamic memory allocator 2x faster than glibc using cache optimization and bitwise intrinsics

Skills

- Languages:** Python, C++, Java, JavaScript, TypeScript, SQL
- Frameworks:** PyTorch, TensorFlow, CUDA, FastAPI, Flask, React, Docker
- Tools:** Git, Linux, AWS, PostgreSQL, MongoDB, Redis, Milvus
- Concepts:** Machine Learning, NLP, Distributed Systems, Backend Development, Data Structures & Algorithms