Troy Conner Allen

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

EDUCATION

Georgia Institute of Technology — Atlanta, GA
Master of Science in Computer Science — 3.86/4.00 GPA — Aug 2024 – Dec 2025
Master of Science in Analytics — 3.78/4.00 GPA — Aug 2022 – Aug 2024

Florida State University — Tallahassee, FL
Bachelor of Science in Computer Science — 3.81/4.00 GPA — Jun 2017 – May 2021

EXPERIENCE

Software Engineer Intern — Aug 2025 – Present
Conduent — *Atlanta, GA*
- Developed ensemble ML models (Random Forest + XGBoost) for vulnerability classification, achieving 98% accuracy across 500+ enterprise environments for Fortune 100 clients
- Built vulnerability processing pipeline handling 1,000+ daily findings with Python microservices and Redis caching
- Designed REST APIs using FastAPI serving 200+ security analysts with vulnerability metrics and automated alerting

Graduate AI Researcher — Aug 2025 – Present
Georgia Institute of Technology — *Atlanta, GA*
- Built Python framework reducing local LLM inference costs by 60% through quantization, pruning, and tracking

Software Engineer Intern — Dec 2024 – Aug 2025
Trideum Corporation — *Atlanta, GA*
- Engineered distributed AI platform capable of processing 290,000+ files using NLP, PostgreSQL, and CUDA with 12+ Docker microservices and load balancing in Python
- Built query and hybrid search systems with 200ms response times using RAG, BM25, and Milvus vector database
- Improved user search experience by implementing filtering across BERTopic clusters, file types, dates, and authors
- Enhanced BERTopic clustering performance 2x through batch processing with PyTorch and POSIX threading

Machine Learning Engineer Intern — May 2024 – Dec 2024
Shepherd Center — *Atlanta, GA*
- Achieved 93% accuracy in predicting pressure ulcers by developing neural network architecture using PyTorch and CUDA
- Built real-time clinical dashboard for 400+ patient datasets using machine learning pipelines with scikit-learn
- Reduced prediction API response time 60% by implementing containerized Flask endpoints with Redis caching

Research Assistant — Jan 2019 – May 2022
Florida State University — *Tallahassee, FL*
- Secured $289k grant by designing PostgreSQL schema for 90,000+ crime records and building C++ NLP framework
- Reduced analysis time 20 weeks by developing OCR pipeline processing 10,000+ documents with 99% accuracy

Lead Teaching Assistant — Jul 2020 – Dec 2020
Florida State University — *Tallahassee, FL*
- Achieved 100% student satisfaction rating by developing and grading all C++ coursework for 75+ students

PROJECTS

LitRA | *Python, GPT, Llama, Next.js, NLP* — GitHub
- Developed AI literature review assistant capable of processing 2,400,000+ papers with concept mapping interface

Goaldle | *Python, OpenCV, YOLOv8, FastAPI, TypeScript, React* — GitHub
- Engineered full-stack computer vision app using the Hungarian algorithm to blur soccer players, handling 1,000+ users

Memory Allocator | *C++, Assembly, Cache Optimization* — GitHub
- Built memory allocator 2x faster than glibc on specific tasks using segregated free lists and boundary coalescing

TECHNICAL SKILLS

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