

DAVID LONG

Knoxville, Tennessee • (912) 409-4956 • dlong37@vols.utk.edu • www.linkedin.com/in/davidl0ng

EDUCATION

The University of Tennessee, Knoxville
Master of Science in Computer Science
Cumulative GPA: 4.00/4.00

Knoxville, TN
May 2027

Bachelor of Science in Computer Science
Cumulative GPA: 3.92/4.00

May 2026

WORK EXPERIENCE

Southern Company, Naperville, Illinois
Gas Solutions Technology Intern

May 2026 – July 2026

- Collaborated with Gas Data Solutions & AI department to migrate a gas leak prediction model from on-premises servers to Azure Databricks
- Developed a decision tree to reliably assign data ownership across 3+ petabytes of decades-old records in the internal file repository
- Built an agent to track 20 internal contacts and generate daily follow-up reports based on last-contact recency
- Presented completed projects to company leadership and Southern Company's CITO at end of rotation

Tickle College of Engineering, Knoxville, Tennessee
Research Assistant

August 2023 – Present
May 2025 – May 2026

- Collaborated with Dr. Rachael Bevill Burns and peers in setting up the Social Tactile & Assistive Robotics and Intelligence Systems (STARI) lab
- Developed a Python implementation of a second-order emotion model, integrating legacy scripts to match MATLAB application functionality
- Created an application for the UT Wellness Mini-Grant to fund a user study on the clinical use of social robots
- Coordinated with peers on preserving the functionality of older NaoV3.3 robots to use for experiments

Teaching Assistant

August 2023 – Present

- Supported professors during lectures of 120+ students by answering questions on course content
- Elaborated on course content to help students understand engineering concepts on assignments
- Encouraged students to develop study habits/time management skills to ensure success in their class
- Addressed common mistakes students make on homework problems and exams

PROJECTS

Domain-Specialized Chatbot with Retrieval Augmented Generation (RAG)

AI/ML Engineer

- Engineered a retrieval-augmented generation pipeline — sentence-boundary chunking, MiniLM-L6 embeddings, cosine similarity search across 6,992 chunks — improving manual correctness scores by 64% over baseline
- Built a React-based chat frontend with real-time streaming responses, integrated with a Flask backend serving a 4-bit quantized Qwen2.5-7B-Instruct model

Mental Health Chatbot

Cloud Infrastructure Engineer

- Deployed and managed AWS infrastructure (EC2, Secrets Manager, S3, CloudWatch) for a Flask-based mental health chatbot, enabling secure credential storage, resource hosting, and crisis-event logging
- Configured CloudWatch metrics to track crisis-detection events in real time and support escalation to verified resources, keeping total cloud costs under \$30

SKILLS

- Experienced in Python, C++, C; Familiar with HTML, CSS, JavaScript, C#, Rust, Haskell, Java
- Frameworks/Libraries: Experienced in Numpy, Pandas, Matplotlib, Scikit-learn; Familiar with Flask, React
- Tools: Experienced in Visual Studio Code, Git, AWS, Azure Databricks; Familiar with Docker, ngrok, Azure ML