

WALTER BRIONES

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Education

Clemson University

Expected – May 2028

Bachelor of Science in Computer Science | GPA : 3.84

Clemson, SC

Relevant Coursework: Data Structures & Algorithms, Software Development (Java), Computer Systems Organization

Awards: Palmetto Fellows Scholarship, Clemson Palmetto Pact Scholarship, Clemson President's list

Technical Skills

Languages: Python, C++, C, Java, JavaScript, HTML/CSS, SQL

Frameworks & Tools: Jupyter Notebook, PyTorch, React, FastAPI, Git, VS Code

Core Competencies: Object-Oriented Programming, Software Design & Implementation, Data Structures & Algorithms, Testing & Debugging, Unit Testing, RESTful API concepts

Experience

Assistant Researcher - Watt AI

Jan 2026 – Present

Clemson University

Clemson, SC

- Explore the use of **vision language models** with the goal of extracting rich information from **60** TV commercials.
- Engineered scalable **multimodal** video analysis pipelines on Clemson's Palmetto Cluster using **Qwen2** (HuggingFace) and PyTorch, transforming unstructured advertisement videos into structured datasets for marketing research.
- Utilized **NVIDIA A100 GPUs** to accelerate multimodal LLM inference, significantly reducing video processing time.

Teaching Assistant - Intro to Computer Science I (C)

Aug 2025 – Dec 2025

Clemson University

Clemson, SC

- Mentored 20+ students in **C programming** and algorithmic problem-solving, focusing on memory safety and pointers.
- Guided students through software design principles, testing, and debugging to strengthen programming fundamentals.
- Collaborate with faculty to **enhance curriculum design**, boosting engagement and comprehension in foundational CS.

Serving Assistant - River House

Mar 2024 – Aug 2025

Montage International

Bluffton, SC

- Developed **strong communication** and **adaptability** within a dynamic, fast-paced, customer-facing environment.
- Consistently upheld a **4.9/5 guest satisfaction rating**, effectively demonstrating empathy and exceptional service.
- Improved order accuracy by implementing structured communication between servers and kitchen staff, reducing errors.

Projects

Reliable | Multimodal Claude Haiku (vision), TypeScript, Fastify

February 2026

- Built a real-time **multimodal AI pipeline** that extracts Instagram Reel frames via ffmpeg, transcribes audio via Groq Whisper, and sends all modalities to Claude Haiku (vision), detecting health claims and visual/audio discrepancies.
- Engineered a **Chrome MV3 extension** with a multi-process architecture spanning a content script, background service worker, and side panel React UI, coordinated via chrome.runtime message passing.
- Designed a cross-modal fact-checking system that correlates timestamped speech, on-screen text, and video frames to surface misinformation in short-form video content with a live scrolling overlay.

Food Tracker | React, FastAPI, PostgreSQL

Dec 2025

- Built a full-stack barcode-scanning nutrition tracker using **React, FastAPI, and PostgreSQL** — integrating real-time camera input via Quagga and the **OpenFoodFacts API** to fetch and log nutritional data from physical food products.
- Implemented end-to-end **JWT authentication** with bcrypt password hashing, OAuth2 password flow, and a React auth context that validates tokens on mount and injects bearer headers on all protected API calls.

AirAware | Python, React, Flask, JavaScript, Leaflet.js

Oct 2025

- Built a full-stack air quality monitoring **app using React, Flask**, and NASA FIRMS satellite data to display live wildfire locations and AQI on an interactive map.
- Deployed a cloud-native microservices architecture on **Railway** with separate frontend/backend services, API response caching, and a GeoJSON wildfire data endpoint.

Leadership & Involvement

ColorStack | Treasurer

Jan 2026

- Oversee the club's bank account and maintain accurate financial records for transparency and accountability.
- Approve all transactions in compliance with established financial rules and approval processes set by the organization.
- Design and approve annual budget to support planned club initiatives and operational needs throughout the year.

Involvement: SHPE, ALPFA, ColorStack, CodePath, AI Club