

# JUSTIN TONG

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## Education

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### University of Central Florida

*Bachelor of Science in Computer Science*

Dec 2026

GPA: 3.8/4.0

Relevant Coursework: Data Structures and Algorithms, Algorithms for Machine Learning, AI for Game Programming, Object-Oriented Software Development, Object-Oriented Programming, Systems Software, Programming Languages

## Experience

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### AI/ML Solutions Engineering Intern

*Command Post Technologies, Inc.*

June 2026 – Present

Orlando, FL

- Engineering an agentic full-stack application with multi-agent LLM orchestration, tool use, and reasoning pipelines within an Agile team deployed on secure, air-gapped infrastructure.
- Architected system backend using FastAPI and React with an integrated knowledge graph and external APIs, delivering an AI-driven tool for internal business department to accelerate and automate complex operational workflows.

### Undergraduate Research Assistant

*University of Central Florida*

Jan 2025 – Apr 2026

Orlando, FL

- Developed an end-to-end traffic intelligence ecosystem encompassing data processing, geotemporal feature engineering, deep-learning prediction models, and an AI-powered traffic chatbot using real-world Florida highway sensor data.
- Co-authored a paper submitted to the TRB Annual Meeting on evacuation traffic prediction models; drafted a second paper on the traffic chatbot; designed and presented a research poster at the UCF Student Scholar Symposium.

## Projects

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### Smart Plant Monitoring System | *Arduino, React Native, TypeScript, NestJS, Supabase, Jira*

Jan 2026 – Present

- Leading a 5-person Agile team as Project Manager, facilitating sprint planning, reviews, and backlog refinement across hardware, backend, and frontend workflows using Jira, while maintaining engineering documentation.
- Engineering a full-stack IoT pipeline using React Native, NestJS, and Supabase to deliver real-time plant health insights via sensor data transmitted from Arduino ESP32 hardware over WiFi.

### PEGASUS Traffic Chatbot | *Langchain, Ollama, Neo4j, Dash, PostgreSQL*

Sep 2025 – Apr 2026

- Architected a multi-agent pipeline routing natural-language traffic queries through intent detection, parameter extraction, and RAG across SQL (PostgreSQL) and Knowledge Graph (Neo4j) databases with predictive model tool-calling.
- Iteratively researched, developed, and benchmarked multiple RAG methodologies including vector embedding, SQL generation, and Knowledge Graph retrieval, evaluating model accuracy across local and cloud-based LLMs (Ollama).

### Hurricane Evacuation LSTM Model | *PyTorch, Scikit-Learn, Pandas, Matplotlib*

Jan 2025 – May 2025

- Processed 8 months of 15-minute traffic data from 418 detectors; cleaned and imputed datasets using Pandas and Scikit-Learn, engineered geotemporal features with GeoPandas, and visualized patterns via Matplotlib.
- Trained and tuned LSTM and advanced spatial-temporal models in PyTorch on UCF ARCC GPU clusters via SLURM batch jobs, achieving 90% accuracy for hurricane evacuation traffic speed prediction.

### Hand Cannon Havoc Video Game | *Unity, C#, Aseprite, GitHub*

Jan 2025 – May 2025

- Co-developed a 2D action platformer using Unity and C#, engineering gameplay mechanics, character interactions, A\* pathfinding for NPC AI, and level progression systems while coordinating team version control through GitHub.
- Designed and animated original characters and environments in Aseprite and optimized game balance based on external playtesting survey data, resulting in an award for the Best Art Direction among 30 teams.

## Technical Skills

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**Languages:** Python, Java, C, C++, C#, HTML, CSS, JavaScript, TypeScript, PHP, SQL

**AI/ML:** Ollama, Unsloth, RAG, LoRA, Scikit-Learn, Langchain

**Frameworks:** React, React Native, Express, Node, NestJS, Pandas, GeoPandas, NumPy, LangChain, Matplotlib, Neo4j, FastAPI, Dash, PyTorch

**Developer Tools:** GitHub, Jira, Supabase, Unity, DigitalOcean, VS Code, Visual Studio, Eclipse, Aseprite