

Jerrold Walker Jr.

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EDUCATION

Louisiana State University (LSU), Baton Rouge, LA

December 2025

B.S., Computer Science (Software Engineering) - Minor in Digital Media Arts & Engineering in Technology - GPA 3.0

Related Coursework: CSC 3102: Data Structures & Algorithms (**Java**), CSC 3380: Object-Oriented Programming & Design (**Python & Java**), CSC 4402: Database Management Systems (**SQL**), CSC 4444: Artificial Intelligence (**Python**)

LSU Artificial Intelligence & Machine Learning Bootcamp

February 2026

Powered by Fullstack Academy

*Immersive AI & Machine Learning program which utilized active learning to gain proficiency in data technologies and tools including **Python**, **PyTorch**, **NumPy**, **Keras**, and **TensorFlow**, and understanding of **machine learning**, **deep learning**, and **data science** processes.*

TECHNICAL PROJECTS

github.com/jerroldwalkerjr

MNIST Image Classification | Python, NumPy, PyTorch, ML | *Handwritten Digit Recognition*

- Implemented *classical Machine Learning* models (**K-Nearest Neighbors**, **Naive Bayes**, **Linear Classifier**) from scratch in **NumPy**, achieving validation accuracy > 75%.
- Developed *deep learning models* (**Linear**, **MLP**, **CNN**) in **PyTorch**, reaching CNN loops with GPU acceleration.
- Preprocessed MNIST images, built custom data loaders, and implemented training loops with GPU acceleration.
- Visualized learned weights and model performance using **Matplotlib**, providing interpretable insights into model behavior.

EXPERIENCE

Undergraduate AI Research Software Engineer

August 2025 – Present

LSU College of Engineering

- **Designed and implemented the full architecture** (frontend, backend, and AI pipeline) for *ExpertAgent*, a personalized learning platform that delivers **real-time adaptive instruction** using LLMs.
- Built a production-ready backend using **FastAPI**, including modular service layers, secure REST endpoints, session management, and curriculum-driven data models.
- Developed an **AI reasoning pipeline** integrating **GPT-4o-mini**, enabling context-aware content generation, dynamic lesson planning, and continuous updates to the knowledge model.
- Engineered a **student-modeling system** that quantifies learner progress and drives the agent's planning decisions, improving personalization and pacing.

Vice President

August 2024 – November 2025

Theta Kappa Chapter of Omega Psi Phi Fraternity, Inc., Baton Rouge, LA

- Collaborated with the executive board to oversee the operations of the chapter, ensuring adherence to organizational goals and university policies.
- Supported the President in strategic decision-making and acted as a liaison between the executive board and members to address concerns and maintain strong communication.

TECHNICAL SKILLS

Tools: Python, Java, SQL, C++, VS Code, Github, TensorFlow, Keras, ScikitLearn, Matplotlib, NLTK, OpenCV, NumPy, Pandas, Sqlite, Seaborn, Bokeh, Plotly, PyTorch, Huggingface

Skills: Generative AI, Prompt Engineering, Large Language Models, Model Training and Optimization, Ensemble Methods, Deep Learning, Natural Language Processing, Machine Learning Algorithms, Convolutional Neural Networks

ACTIVITIES

Omega Psi Phi Fraternity, Inc., National Society of Black Engineers, Order of Omega, NAACP, NSLS