Gavin Abrigo

(408)-888-8732| abrigogavin05@gmail.com |linkedin.com/in/gavinabrigo | gavinabrigo.com

EDUCATION

University of California Merced   Merced, CA
Bachelor of Science in Computer Science & Engineering   *May 2027*

Relevant Coursework: Data Structures & Algorithms, Intro to Machine Learning, Database Systems, Computer Vision

TECHNICAL SKILLS

Languages — TypeScript, JavaScript, GoLang, Java, Python, C/C++, HTML/CSS, LaTeX, MIPS Assembly, SQL, PostgreSQL, MATLAB, SPARQL

Technologies — Shell, React, FastAPI, Git, Node.js, Next.js, Vite, StreamLit, Nvidia NIM, Tesseract, OpenCV, Docker, PyTorch, Pandas, Excel, SQLite

Concepts — Hardware/software integration, signal processing, test automation, data acquisition, debugging

EXPERIENCE

Undergraduate Researcher   September 2025 - Present
LLM Knowledge Graph Retrofitter (KGR) - Prof. Pandey   *Merced, CA*
- Building a Python-based Knowledge Graph Retrofitting (KGR) and Retrieval-Augmented Generation (RAG) pipeline using Wikidata and SPARQL to improve factual accuracy and reduce hallucinations in NLP models.
- Fine-tuning entity linking systems (spaCy) and evaluating LLM verification performance (ChatGPT, LLaMA-3, DeepSeek) with NLP metrics such as exact match and F1 on benchmark datasets.

Software Engineer Intern   January 2025 - March 2025
Oculus (NFT Automation Software Startup)   *Remote*
- Developed Bash and TypeScript CLI automation tools to streamline multi-language builds, integrating Go protobuf generation and client compilation—cutting setup time by 65% and build errors by 40%.
- Implemented cross-platform environment validation scripts for Windows, macOS, and Linux, standardizing workflows and improving developer onboarding efficiency across a 6-person team.

PROJECTS

UC Pokédex | *Python, Flask, SQLite, SQL*

Built a full-stack relational database web application for managing and querying Pokémon data.
- Developed a Flask-based web app with REST-style routes supporting search, pagination, and full CRUD operations over a normalized SQLite database.
- Designed and implemented relational schemas and optimized SQL queries (joins, aggregates) to power analytics such as top-N rankings by stat.
- Built supporting tooling including a CLI query runner and Dockerized environment to enable repeatable testing and deployment.

OCR-Tool | *Python, Tesseract OCR, OpenCV, PDF2Image*

Built a Python-based pipeline to automate text extraction and document digitization from PDFs.
- Developed a data extraction and validation pipeline to automate OCR testing on large document batches.
- Implemented logging reporting to measure and tune recognition accuracy.
- Designed modular Python scripts to handle image preprocessing, rotation correction, and data acquisition.

Fleet-AI | NVIDIA AI Agent Hackathon | *Nvidia NEMO, Python, StreamLit*

Designed a smart fleet management dashboard powered by Python for real-time data and AI interaction.
- Built a real-time system for data visualization and AI-driven validation of fleet performance metrics.
- Data acquisition from simulated sensors and integrated live feedback with AI interaction.
- Optimized test routines for responsiveness and reliability, reflecting hardware-software co-design principles.