Dominic Galgano

LinkedIn: www.linkedin.com/in/dominic-galgano | Portfolio: https://dwg.servehttp.com

Education

University of Colorado - Boulder (Graduated 2024)

Bachelor of Science in Computer Science (GPA 3.5/4.0)

- Studies: System Administration, Network Systems, Datacenter Management, Bio-networks and Graph Theory, Intro Cybersecurity, Intro Quantum Computing, Intro Robotics

Skills

Programming Languages:	Python, JS, Bash Script, Java, C, C++
Web Development:	HTML, CSS, Flask, Gunicorn, Nginxs
Databases:	PostgreSQL, MongoDB, Spark
Network and Security:	OpenSSH, N-Map, Wireshark, DNS, DHCP, PKI
Deployment and Administration:	Git, Docker, K8s, Linux(Ubuntu,Debian,RedHat), Windows PS

Experience

National Renewable Energy Laboratory (Summer 2024)

LLM Research Assistant

- Built multi-agent LLM graph using LangChain, LangGraph, Python, Docker, and HPC
- Designed multi-agent communication between "expert" LLMs based on Llama3 8b and 70b
- Worked with team members to integrated fine-tuned model and RAG into multi-agent system
- Tested system against existing benchmarks like BIG-Bench and advanced power systems problems
- Improved Llama 3 domain specific responses and problem solving to near equivalence of state-of-the-art-models such as GPT-4mini and Claude 3.5 Sonnet

FESTO (Fall 2023-Spring 2024)

Capstone Team Member

- Developed a Physically Unclonable Function(PUF) in C to take in several samples of random 128-bit strings and determine stable bits to generate a unique device identifier(UDID)
- Extracted raw memory values on startup from DRAM of FESTO's PLC and Raspberry Pi, which varied based on non-replicable miro-defects in each devices' hardware
- Helped team develop online portal for uploading and verifying UDIDs using HTML, JS, and Web3
- Stored UDIDs on Ethereum blockchain using Solidity contracts
  - * Due to internal complications FESTO disengaged from the project before development and testing began; however, the project still placed 2nd out of all capstone software projects

References

Rishabh Jain

NREL / PSEC Researcher

www.linkedin.com/in/risjain