SUJAY ANANTHA

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EDUCATION

New York University, Tandon School of Engineering, New York, NY. ***May 2024***

Master of Science in Computer Engineering.

Major Courses: High Performance Machine Learning, Deep Learning, Big Data, Management Science

M. S. Ramaiah University of Applied Sciences, Bangalore, India ***May 2021***

Bachelor of Technology in Electronics and Communication Engineering,

Major Courses: Embedded Systems, Computer Architecture, Image Processing, Networking Systems

TECHNICAL SKILLS

Programing Languages: C, C++, Python, MATLAB, Java, Java Script, HTML, CSS
Other tools: Git, SQL, Sparql, MongoDB, Azure, NoSQL, Oracle Data Modeler, Hive, Apache, Tableau, Hadoop, MySQL, Pytorch, TensorFlow, Keras, NumPy, GNNs, CNNs, NLP, Hugging Face,NLTK, Spacy, Gensim, Docker, Windows, Linux, Excel, Powerpoint

ACADEMIC PROJECTS

"VIP: Merger and Acquisition" ***(Python, PyTorch, GCN, GraphSAGE, GAT)*** ***October 2023 – Present***

- Developed a benchmarking suite for Graph Neural Networks in Python, enhancing model evaluation accuracy by 20%.
- Implemented support for node classification and link prediction tasks across multiple GNN architectures (GCN, GraphSAGE, GAT, GATv2), optimizing training efficiency on datasets like Cora, Citeseer, and Pubmed by 35%.

"Project-SAFE-Bank" ***(Java, Spring Boot, MySQL, Java Script, REST API)*** ***March 2024 – May 2024***

- Executed secure backend services using Java and Spring Boot with JWT authentication and encryption, achieving a 40% increase in data retrieval speed.
- Designed and optimized MySQL database schema for account and loan management, enhancing query performance by 30%.

"Financial Security Fraud Detection and AML Model" ***(Scikit-learn, Spark, Hadoop)*** ***October 2023 – December 2023***

- Created a machine learning model to parse 1TB+ transactions, enhancing fraud detection efficiency.
- Conducted pattern analysis to the IBM AML dataset, attaining 95% accuracy in fraud identification.

"Student Capstone Project Assignment" ***(Gurobi, Pandas, NumPy)*** ***October 2023 – December 2023***

- Optimized 120 students' project allocation via Integer Linear Programming, increasing fairness by 30%.
- Interfaced Goal Programming to balance preferences, yielding higher satisfaction and project fit.

"Fine-tuning LLM's on limited hardware" ***(Hugging Face, PyNVML, WandB)*** ***March 2023 – May 2023***

- Fine-tuned a GPT-2 model boasting 1.5 billion parameters on the NIH grants dataset utilizing a single Quadro RTX 8000 GPU, optimizing resource allocation to achieve model efficiency on limited hardware.
- Accomplished a perplexity of 2.9 after 14 epochs of efficient training on NYU's Greene high-performance computing cluster, marking a 15% improvement in model performance over standard configurations.

"Emotional Valence Predictor" ***(Python, TensorFlow, Keras, Pandas, Matplotlib)*** ***March 2023 – May 2023***

- Coded a deep learning framework that outperformed emotional prediction benchmarks by 25%.
- Streamlined data processing for large NumPy arrays, enhancing model training speed by 20%.

"Pipelined MIPS Simulator" ***(C++, bitset, ifstream, ofstream, vector)*** ***October 2022 – December 2022***

- Engineered a 5-stage pipelined MIPS Simulator in C++, achieving a 30% simulation speed boost.
- Utilized parallel processing for a more realistic MIPS simulation, enhancing overall performance.

WORK EXPERIENCE

Intern,* Raman Research Institute,** Bangalore, Karnataka ***(Python, Simulink) ***June 2019 – August 2019***

- Synthesized 50+ technical documents on RTL-SDR and Horn antennas, enhancing RF processing understanding by 20%.
- Customized RTL-SDR on Raspberry Pi 3B+ for RF transmission, boosting signal integrity by 15%.
- Engineered a MATLAB data system, improving signal-to-noise ratios by 30%, 10% above field standards.

Intern,* Spatez Technology LLP.,** Thrissur, Kerala ***(Python, Git, JIRA) ***July 2018 – August 2018***

- Reviewed Arduino UNO and NODEMCU ESP8266, identifying 20+ use cases, increasing productivity by 15%.
- Led a 5-person team using agile methods to deliver 3 projects, enhancing team efficiency by 20%.
- Applied diagnostic techniques, reducing downtime by 10% and achieving a 95% project completion rate.