Sai Kundan Suddapalli

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Professional Summary

Computer Science professional with a strong background in software development, machine learning, and quantum computing. Experienced in C++, Python, TensorFlow, and PyTorch, with a track record of solving complex problems in both industry and research. Contributed to key projects in the BFSI sector, including enhancing trading platforms, and applied advanced machine learning techniques to real-world challenges in materials science and medicine. Adept at designing and implementing deep learning models, conducting reverse engineering analysis, and automating critical processes. Driven by a passion for innovation and continuous learning, with a focus on impactful, practical solutions.

Technical Skills

Python, C++, Machine Learning, Deep Learning, TensorFlow, PyTorch, Pandas, NumPy, Scikit-learn, ReactJS, JavaScript, SQL,Git, Azure , Ghidra , Cutter, EDB/GDB, Cmake, qiskit, tfq

Education

Master of Science (M.S.): Computer Science - University of North Georgia, Dahlonega GA December 2024

- Advanced Reverse Engineering: Learned x64 and ARM64 assembly languages. Analyzed binaries using Ghidra, Cutter, and debugging tools like GDB, EDB, and WinDbg. Conducted malware analysis, including a study on the Anubis banking trojan, and authored a related paper.
- Thesis: "A Comparative Analysis of Quantum Neural Networks on Imbalanced Datasets."
- Advanced Computer Security taught me ethical hacking techniques for securing systems ranging from computers and mobile devices to even cars across different operating systems.
- Grade: 4.0

Bachelor of Technology (B.Tech.): Computer Science – JNTU Hyderabad India August 2021

Experience

Graduate Teaching/Research Assistant (GTA/GRA) May 2024 - Current
University of North Georgia, Dahlonega, Georgia, USA

- Conducting research on advanced machine learning techniques with applications in materials science and medicine.
- Involved in literature reviews, data collection (both qualitative and quantitative), and data analysis.
- Assisting in research preparation, including participation in institutional review board (IRB) processes.
- Teaching Support: Assisted professors with instructional duties, including lectures, grading, and recording attendance.
  Proctored exams, held office hours, and supported students with course material.

C++ and Python Developer Nov 2021 - 2023
Tata Consultancy Services, Hyderabad, Telangana, India

Experienced C/C++ Developer specializing in the BFSI vertical with over 2 years of experience contributing to the **Multi Commodity Exchange (MCX) trading platforms**. Demonstrated expertise in enhancing critical components and driving innovation.
Enhanced the sophistication of trading platforms by mastering critical components such as the Order Book Interface, Market Data Distribution, and Info Feed, integrated seamlessly with Kafka.

- Optimized order book interface, increasing user base by 25%.
- Developed low-latency info feed, exceeding client expectations.
- Implemented CI/CD pipeline, reducing deployment time by 40%.
- Automated report generation, improving efficiency by 30%.

Projects

- Quantum Neural Networks: Comparative analysis on imbalanced datasets.
- Video Deepfake Detection: Developed CNN+RNN and Vision Transformer model.
- Medical Appointment Analysis: Utilized Python for data analysis and visualization.
- Custom OS using C# COSMOS

Publications and Presentations

- "LLM vs DNNs," selected for ICAI conference, 2024.
- "Comparative Analysis of Quantum Neural Networks on Imbalanced Data," master's thesis, University of North Georgia, 2024.
- Malware analysis, including a study on the Anubis banking trojan

Certifications

- **Google Certified TensorFlow Developer**
- Microsoft Certified Azure Admin

Portfolio link

- LinkedIn: https://www.linkedin.com/in/saikundan/
- GitHub link: Ironman20121 (Sai Kundan Suddapalli) (github.com)
- Personal Link: https://ironman20121.github.io/My-Tech-Universe/