VENKATAKRISHNA RAVI

+1 6314355912 | venkatakrishna.ravi@stonybrook.edu | linkedin.com/in/venkatakrishnaravi | github.com/rvkrishna13/

EDUCATION

Stony Brook University, NY
August 2023 – Present
Master of Science in Computer Science
Cumulative GPA - 3.89/4.0

Indian Institute of Technology, Hyderabad
July 2017 – May 2021
Bachelor of Technology, Computer Science and Engineering
Cumulative GPA - 8.51/10

SKILLS

Languages & Frameworks	C, C++, Python, Java, JavaScript, HTML, CSS, React, Vue, Flask, Django, FastAPI
Databases & ORM	MySQL, PostgreSQL, MongoDB, Redis, SQLAlchemy
DevOps & Cloud Services	Docker, Kubernetes, Azure
Other Skills	Git, Pandas, Numpy, Pytorch, Kafka, Git, Postman, Jira, CI/CD, Bash, Backend Engineering, Frontend, Full Stack Engineering

EXPERIENCE

Software Project Assistant | Laufer Center
January 2024 – Present
- Led the design and implementation of a user-centric graphical user interface (GUI) for Neuroblox, an advanced platform for neural circuit modeling.
- Developed a Vue.js GUI, **which facilitated a 30% reduction in model setup times**, enabling researchers to engage with simulations, vastly improving productivity and ease of use for complex models.

Software Development Engineer | Jio Platforms
July 2021 – August 2023
- Developed Content Curating Service, automating the process of scraping health-related web content. Devised a Python script that **reduced manual effort by 30% when guided with a base URL**.
- Led the migration of legacy systems to a modern architecture, resulting in a remarkable 20% cost reduction and a **15% increase in overall operational efficiency**.
- Designed an authentication and authorization service, ensuring access control for users seeking Jio Health services.
- Crafted robust APIs, **enabling the seamless onboarding of 500+ new providers and facilities**. Resulted in a 60% reduction in onboarding time, alongside fortified security through Keycloak integration.
- Led the development of an encryption service to enhance client-side data security, resulting in widespread adoption by web applications.
- Improved system performance by configuring Redis Cache, **reducing response times by an impressive 30%**.
- Incorporated Azure Kubernetes Services to optimize application deployment and maintenance.
- Transformed API functionality through strategic code optimization and consolidation of database queries, **resulting in a substantial 60% reduction in system latency** and a notable increase in overall system throughput.

Software Development Intern | Tata Consultancy Services
May 2020 – August 2020
- Built a user-friendly web application using Django, streamlining dataset uploads and automating optimal classification model selection.
- Designed a robust evaluation framework, leveraging machine learning for optimal model selection, **leading to a notable 20% decrease in false positives, enhancing data integrity and accuracy**.

PROJECTS

Software TLB Implementation for xv6 Operating System | *C, Operating Systems*
- Implemented a software-managed Translation Lookaside Buffer (sTLB) within the xv6 operating system to enhance memory management and address translation efficiency.
- Optimized system performance by reducing execution time from 3,500 to 2,700 ticks, achieving an 18% decrease in processing time across tests.

Massively Parallel Server Processor | *C, Linux*
- Currently developing a Linux kernel module to enhance server performance by implementing SIMT (Single-Instruction Multiple-Thread) drivers, enabling more efficient parallel processing. Executed a basic hello-world program with system calls, demonstrating initial functionality.
- Involved in further development and optimization to expand capabilities and integrate advanced features.

dl-ADMM Optimizer - Deep Learning, Optimization techniques | *Python, Pytorch, Numpy*
- Incorporated a novel optimization algorithm for deep learning networks - dl-ADMM in PyTorch from scratch.
- Outperformed SGD on benchmark datasets by achieving a remarkable 10% higher accuracy; leveraged advanced machine learning techniques and ensemble models to deliver exceptional results.

Understanding Arrival and Departure Delays in U.S. Airports | *Python, Pandas*
- Led a data analysis project investigating the correlation between arrival and departure delays at U.S. airports.
- Incorporated advanced statistical methods and machine learning algorithms to uncover patterns and insights.
- Delivered actionable recommendations for improving airport operations and enhancing passenger experience.