Rizwan Syed

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EDUCATION

State University Of New York At Buffalo, Buffalo**, NY** **Aug 2023 – Dec 2024**
Master of Science in Computer and Information Science
Coursework: Database Management Systems (Capstone), Analysis of Algorithms, Operating Systems, Data Intensive Computing.

Sathyabama University, Chennai, India **Jun 2019 - May 2023**
Bachelor of Science in Computer Science and Engineering
Coursework: Data Structures, Object Oriented Analysis, Cloud Computing, Software Development, Code optimization and debugging.

SKILLS

Languages:	Java, Python, JavaScript, TypeScript, SQL, C++, HTML, CSS, JSON, GraphQL, XML, C#.
Frameworks:	REST API, Vue, Kubernetes, React Js, Spring boot, AWS, PyTorch, CDK, Redux, Node Js, PowerBI, GitHub.
Database & Cloud:	MySQL, MongoDB, SQL Server, Docker, NOSQL.

PROFESSIONAL EXPERIENCE

University at Buffalo, The State University of New York New York, USA
Student Researcher **Jan 2024 - Sept 2024**

- Researched strategies to enhance energy efficiency in **Large Language Models** like GPT-2, utilizing techniques such as Quantization, Distillation and Low-Rank Factorization.
- Optimized GPT-2's energy efficiency through Quantization methods, resulting in a **19.8% reduction in CO2 emissions** while maintaining model performance, with only a 6% increase in perplexity scores.
- Conducted a thorough analysis of code changes, handled debugging and deployments, driven by the goal to minimize disruption and prevent negative impact on the system during the migration process.
- Examined the synergistic effects of combining distillation and quantization methods, **resulting in a 45.2% reduction in emissions**, despite a 57.4% rise in perplexity, highlighting the **trade-off between energy efficiency and model accuracy** With Extensive Hands-on in **Git**.

Vaya Group Hyderabad, India
Software Developer **Jun 2022 - May 2023**

- Developed a sophisticated **supplier onboarding form at vipani.ai** using a microservices-based architecture with **Java** and **Spring Boot**, spanning tens of pages, enabling suppliers to provide comprehensive details about their products, services, and capabilities necessary for **effective B2B procurement**.
- Gained **hands-on experience** in **UI/UX design** by collaborating with the design team to create **intuitive and user-friendly interfaces**, ensuring a seamless user experience for suppliers during the onboarding process.
- Developed a robust file searching system for thousands of suppliers across the network, enabling users to quickly and easily locate necessary files and streamlining the **supplier management process**.
- Implemented a **Trie-based algorithm** for file search utilizing **JavaScript, React** and, caching at multiple stages to achieve optimal search performance with a **p95** latency under 10 milliseconds over million files.
- Performed code review, managed **Jenkins** based CI/CD pipeline, mentor interns, and collaborated with product management to provide technical support for various operational issues and tasks.
- Integrated SSO for seamless user access, managed OAuth for enhanced data security and access control in web services.
- Actively participated in daily stand-up meetings, sprint planning, and retrospective sessions as part of an **Agile development** team, contributing to Software Development Life Cycle (SDLC) processes, fostering collaboration and continuous improvement.

KEY ACADEMIC PROJECTS

Relational Database Engine (Taco-DB) |C++, GDB, Linux

- Implemented **POSIX I/O for optimal file handling** and improved data manipulation, significantly enhancing I/O performance. **Designed an efficient data layout system** to streamline data access and optimize storage space for faster query execution.
- Engineered single-table query processing algorithms to reduce query times and resource consumption, ensuring optimal performance. **Integrated B-tree indexing to accelerate data retrieval** and improve search efficiency across large datasets.
- **Developed and implemented join algorithms for efficient relational data operations**, reducing execution time during multi-table queries. Performed manual query optimization to refine query execution plans and boost overall system performance, with the entire environment containerized using Docker for consistency and scalability.

Online Electronic Store using Angular

- Developed an Angular-based online store with dynamic product catalog, advanced search filters, and secure user management.
- Implemented **state management with NgRx**, optimized performance through **lazy loading**, and integrated efficient **API** connections for a seamless and responsive user experience.
- Deployed **robust security measures including JWT-based authentication and encryption**, ensuring secure transactions and data protection across the platform and finally deployed at **Git.**

RELEVANT ACHIEVEMENTS & CERTIFICATIONS

- Published a journal titled "[Face Mask Detection with Alarm using Machine Learning](#)" in the International Research Journal.
- Certifications: Certified by the Ministry of Skill Development in [Business app creation with Zoho](#), Certified in [AngularJS from Credo System](#).