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.
Frameworks: REST API, Kubernetes, React Js, Spring boot, AWS, PyTorch, AWS, GIT, Redux, Node Js,PowerBI, Git.
Database & Cloud: MySQL,MongoDB, SQL Server.

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 CO_2 emissions** while maintaining model performance, with only a 6% increase in perplexity scores
- 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**.
- 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 **SpringBoot**, spanning tens of pages, enabling suppliers to provide comprehensive details about their products, services, and capabilities necessary for **effective B2B procurement**.
- 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.
- Extensively used **object oriented programming** concepts to maintain the project modular and structurally simple. Metrics collected over production usage are used to tune the caching system for optimal cache hit rate.
- Actively participated in daily stand-up meetings, sprint planning, and retrospective sessions as part of an **Agile development** team, fostering collaboration and continuous improvement moreover, **collaborated with product management** to provide technical support for various operational issues and tasks.

KEY ACADEMIC PROJECTS

Relational Database Engine (Taco-DB) |C++, gdb,linux
- Developed a high-performance database management system (DBMS) focused on efficient data storage and retrieval using C++.
- 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.

Online Electronic Store using Angular
- Developed an online electronic store similar to Flipkart and Amazon using **Angular**, featuring a dynamic product catalog, advanced search filters, and secure user account 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.

RELEVANT ACHIEVEMENTS & CERTIFICATIONS
- Published a journal titled "Face Mask Detection with Alarm using Machine Learning" in the International Research Journal.
- Certified for completing an internship in IOT Analytics focused on energy management from Smart Internz.
- Certified by Ministry of Skill Development and Entrepreneurship for a training program on creating business apps using Zoho Creator.
- Certified in Angular js from Credo System.