Rahul Talari

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EDUCATION

University of Florida *Gainesville, United states*
Master of Science in Computer Engineering **August 2023 – present**
Course work: Advanced Data Structures, Database Management Systems, Computer Networks, Distributed Operating Systems Principles, Analysis of Algorithms, Embedded Systems, Data Engineering, Computer Network security.

Motilal Nehru National Institute of technology *Allahabad , India*
Bachelor of Technology in Electronics and Communication Engineering **July 2019 – May 2023**
Course work: Computer Programming, Data Structures and Operating Systems, Computer Architecture, Microprocessor and Applications, Digital Signal Processing, Data Communications And Networks.

TECHNICAL SKILLS

Programming Languages:	C/C++, Java, Javascript/Typescript, Python, PHP, C#
Development:	ReactJS, PyTorch, HTML, CSS, Angular, SQL, jQuery, MySQL, MongoDB
Frameworks:	FastAPI, Spring, Next.js, Bootstrap, Node.js, Flask, REST APIs, .NET
Technologies:	Git, Android Studio, AWS, Microsoft Azure, Vitis, Kubernetes, Jenkins
Computing Environments:	Linux, MacOS, Windows

PROFESSIONAL EXPERIENCE

University of Florida *Gainesville, Florida*
Student Assistant Developer **August 2024 – Present**

- Developed high-performance **RESTful APIs** utilizing **Spring Boot**, **PostgreSQL**, implementing microservices architecture and distributed systems principles to optimize and scale ticket management operations.
- Implemented scheduled batch processing using **Java** and set up cron jobs in the TAPS internal transportation management system to automate data synchronization, improving system reliability by **45%**.
- Optimized maps integration in **Angular** for real-time ticket tracking within TAPS, utilizing Google Maps API, TypeScript, RxJS, Redux, Context API, and WebSockets, reducing load time by **35%** and enhancing system performance by **50%**.

PROJECTS

Q-File-Share **August 2024 – December 2024**

- Developed a secure file-sharing application utilizing Post-Quantum Cryptography (PQC) techniques such as Crystals Kyber for key exchange and Crystals Dilithium for digital signatures.
- Built the application using **Next.js** (frontend) and **FastAPI** (backend) for a fast, responsive, and efficient user experience, utilizing various NPM packages to enhance functionality and streamline development.
- **PostgreSQL** was used as the database to guarantee dependable data storage, effective querying, and smooth backend integration for user data and file metadata management.

Global Trend Analyzer **August 2023 – Decemebr 2023**

- Spearheaded the development of the "Global Trend Analyzer" from conception to implementation, Utilised **MySQL** for efficient data management and querying.
- Customization options included selection from a curated list of data sources (e.g., GDP, education, mental health metrics), narrowing down analysis by country, continent, or region, and specifying desired time frames.
- Worked on implementing the APIs for the application in **Python** using **Flask**, Facilitating a stable interaction between the client and server.

BitTorrent Application **August 2024 – January 2025**

- Developed a **Java**-based BitTorrent Application supporting **distributed file transfers** by splitting files into smaller pieces and sharing them among peers, ensuring **cross-platform compatibility**, including **Linux**.
- Implemented **multithreaded programming** to manage multiple peer connections concurrently, increasing data transfer speeds by 30%, reducing latency by 40%, and enhancing overall system efficiency.
- Integrated a **PHP-based web interface** within a **CMS environment** to allow users to monitor file-sharing activity, manage peer connections, and track transfer logs.

E-kart **August 2022 – January 2023**

- Designed and developed a e-commerce website using the **ReactJS** (Front end) and **Node.js** (Back end), showcasing a sleek and user-friendly UI design for an optimal shopping experience using **MERN** stack.
- This platform represents a student-centric e-commerce website, dedicated to supporting and guiding freshers.