Pushpak Jaju

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Education

Arizona State University, Tempe, AZ **Aug 2023 - May 2025**
Master of Science in Computer Science; **GPA 3.93/4.0**

PES College of Engineering (Affiliated to Visvesvaraya Technological University), India **Aug 2017 - Sept 2021**
Bachelor of Engineering in Computer Science; **GPA 3.6/4.0**

Technical Skills

Programming Languages & Databases: Python, TypeScript, JavaScript, Node.js, Java, SQL, MongoDB, PostgreSQL.
Web Technology: HTML, CSS, REST APIs, CI/CD Pipelines, Jenkins, API, Web Scraping.
Tools: Tableau, Google Cloud, AWS, Apache Spark, Hadoop, Kafka, Kubernetes, Docker, Git, Jira, Power BI.
Frameworks & Packages: Django, Flask, Spring Boot, Angular, React, Numpy, Pandas, Pytorch.

Work Experience

Software Engineer, MyAscend AI, San Jose, CA **Jul 2025 - Present**

- Developed a unified **passwordless authentication framework** integrating email verification links and phone OTP verification using **Next.js server actions, Supabase Auth, and Temporal workflows**, eliminating duplicate accounts and improving onboarding.
- Redesigned the group invitation experience with enforced contact validation and automated organization setup, resolving pre-existing user conflicts and reducing account-linking errors by **90%** in multi-tenant environments.
- Implemented an end-to-end profile upload system with image validation, cropping, and instant preview via **React** and **Supabase storage**, achieving **99%+ successful updates**.
- Optimized organization member management by refining SQL JOIN performance and enabling real-time updates through React state synchronization, allowing **25+ users across 4 organizations** to collaborate seamlessly and reducing page load times by **40%**.

Software Engineer, Arizona State University (EOSS Tech Team), Tempe, AZ **Jun 2024 - May 2025**

- Implement and manage a dynamic ride scheduling feature for a campus cart application using **React and TypeScript**, enabling users to filter and view scheduled rides based on campus locations, achieving a **40% reduction in search time.**
- Engineer a robust rescheduling system that allows users to modify ride details, such as date, time, locations, and driver, directly within the interface, streamlining the process and resulting in a 30% boost in user engagement.
- Transform a static ride schedule table into an editable interface, enabling admins to directly modify ride details (pickup time, locations, driver, notes, and status) and delete individual rides, reducing administrative **update time by 30% and improving data accuracy across 200+ rides weekly.**

Data Engineer, Cognizant, Bengaluru, India **Jan 2021 - Jul 2022**

- Revamped ETL workflows and optimized stored procedures in a data warehouse, leading to a **25% boost in query performance and a 20% reduction in data processing time**, thereby increasing overall system efficiency.
- Built APIs for seamless data integration between **SQL Server and Google Cloud BigQuery**, ensuring smooth data flow, enhanced scalability, and reliable performance under heavy workloads.
- Formulated detailed data quality baseline flow diagrams, including robust error handling and comprehensive test planning, with the goal of decreasing data errors by 40% and significantly improving data reliability.

Projects

Swarm Intelligence-Based Distributed Database System **Sep 2024 - Nov 2024**

- Innovated a distributed database system leveraging swarm intelligence algorithms (ACO and PSO) for adaptive data partitioning and query optimization.
- Deployed a fault-tolerant architecture by integrating **MongoDB, Docker, Kubernetes, and Apache Kafka** to achieve seamless scalability and efficient communication across distributed nodes.

Elastic Face Recognition Application (IaaS) **Feb 2024 - Apr 2024**

- Designed a scalable face recognition application on AWS EC2, utilizing a multi-tier setup for efficient workload management and optimized resource allocation.
- Configured **autoscaling 20 EC2 instances** for the application tier, allowing automatic adjustment based on demand, minimizing costs and enhancing performance.

Serverless Video Analysis Pipeline (PaaS) **Feb 2024 - Apr 2024**

- Created a serverless video processing pipeline with AWS Lambda for scalable video analysis and face recognition, leveraging AWS services for efficient task execution.
- Streamlined data handling workflows by integrating AWS S3 for storage and Lambda functions, ensuring high concurrency and low latency in real-time processing.

Predicting Phenotype in Yeast, Rice, and Wheat **Mar 2021 - May 2021**

- Developed a machine learning model achieving 94% accuracy in predicting organism physical characteristics by utilizing advanced algorithms and genomic data.
- Leveraged diverse ML techniques, such as ridge regression, lasso regression, random forest, GBM, SVM, and genomic BLUP, to boost predictive accuracy.