Yashraj Bharambe

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EDUCATION

Master's in Computer Science — Expected May 2025
Arizona State University, Tempe, AZ — GPA: 4.0/4.0
BTech in Information Technology — Jun 2023
Savitribai Phule Pune University (University of Pune), Pune — GPA: 3.9/4.0

TECHNICAL SKILLS

Languages: Python, C++, Java, SQL
Web Technologies: HTML, CSS, JavaScript, React, Node.js, Bootstrap
Frameworks & Cloud: Spring Boot, Spring MVC, AWS (EC2, Lambda, S3, Auto Scaling)
Tools: Git/GitHub, MongoDB, MySQL, Jupyter, R Studio, Visual Studio

PROFESSIONAL EXPERIENCE

Full Stack Software Developer, Capgemini, India — Jan 2023 – Jun 2023

- Refined **API** performance by 20% via **Redis** caching, database indexing, query refactoring, leading to faster response times.
- Increased system scalability by 25% by applying **Spring's Dependency Injection** and **Inversion of Control (IoC)** to decouple components, facilitating easier scaling and maintenance.
- **Minimized downtime by 30%** by deploying automated monitoring and alerting tools to address performance bottlenecks.

Research Assistant, JSPM College of Engineering, India — Jul 2022 – Jan 2023

- Conducted in-depth research on churn prediction, analyzing a comprehensive dataset of **240,000 telecom customers** with **226 features** to identify critical churn indicators, facilitating data-driven decision-making for customer retention.
- Attained **94.19% accuracy** in churn prediction by refining **XGBoost** through hyperparameter tuning and leveraging advanced ML techniques (**Logistic Regression, SVM, Random Forest**).
- Authored and presented a research paper titled **"Churn Prediction in Telecom Industry"** at the *2023 International Conference for Advancement in Technology*, IEEE contributing to advancements in predictive analytics, machine learning.

Application Engineer, REG-ex Software Services, India — May 2021 – Jun 2022

- Expanded system scalability by **30%** with **Spring Framework** for a major transportation client's software infrastructure.
- Engineered API integrations with Spring Integration and Spring Cloud Stream, cutting data exchange latency by 20%.
- Designed and developed **Spring Boot micro-services** for fleet management, enabling vehicle maintenance scheduling, telematics analysis, fuel optimization, and compliance tracking, lowering operational costs by **10%**.

Data Operations Engineer, Crystal Web Tech, India — Nov 2020 – Apr 2021

- Constructed **ETL pipelines** with **Apache Spark** and **Hadoop**, processing 10GB of data daily across distributed clusters.
- Maximized image classification performance by **20%** (reducing processing time from 50ms to 40ms per image) through Spark job optimization and delivered **92% accuracy** by revamping Python-based data integration for **6-category** models.
- Built interactive dashboards and reports with **Tableau** and **Power BI**, transforming raw data into actionable insights enhancing stakeholder engagement by **35%** and accelerated decision-making.

PROJECTS

Graph-Based Transformers for Social Network Analysis — Jan 2025 – Mar 2025

- Implemented **graph-based transformer** models to classify social network users, securing **99.50%** accuracy in node classification and an F1-score of **95.91%** for imbalanced datasets (bots, influencers, normal users).
- Addressed class imbalance and scalability challenges using synthetic **data augmentation** and **weighted loss functions**, improving model performance and interpretability for bot detection tasks.

Scalable Image and Video Recognition System on AWS — Jan 2024 – May 2024

- Deployed a scalable AWS system (**EC2**, **S3**, **SQS**, **Lambda**) for 10,000+ image requests (**500 RPS**) and 50 concurrent video uploads, achieving 95% accuracy (**less than 2s** latency) leveraging **OpenCV**, **TensorFlow**, and transfer learning.
- Optimized AWS resource efficiency and cost via Auto Scaling for **IaaS** and decoupled **S3** storage for serverless **PaaS**.

Quiz Application using Spring Framework — Sep 2023 – Dec 2023

- Developed a Spring Boot quiz app with **RESTful APIs** and **Spring Security**, improving user experience by 30%.
- Enhanced project efficiency by employing **Maven** to shorten deployment time by 30% and attain a 250% improvement in data retrieval speed, with **95% test coverage** for key features like quiz creation and scoring.