KATHAR PATCHA ABDUL RAHIM

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SUMMARY

Results-oriented Software Development Engineer with 3+ years of experience building scalable backend systems and RESTful APIs using Java and Spring Boot. Proven track record in designing service-oriented architecture and automating CI/CD workflows using Jenkins, Docker, and Kubernetes. Adept at collaborating in Agile teams to deliver high-quality software in rapid release cycles. Strong advocate for operational excellence, system scalability, and customer-focused solutions. Seeking to contribute engineering expertise and innovation to Amazon Canada's mission of delivering high-impact technology at scale.

TECHNICAL SKILLS

- **Languages**: Java, Python, SQL, TypeScript
- **Backend Development**: Spring Boot, Flask, Django, RESTful APIs, Microservices Architecture, Nest Js
- **Frontend**: React, React Native, HTML, CSS
- **DevOps & Cloud**: Docker, Kubernetes, Jenkins, GitHub Actions, AWS (S3, EC2, DynamoDB)
- **Databases**: MySQL, PostgreSQL, DynamoDB
- **Version Control & Agile**: Git, JIRA, Agile/Scrum, CI/CD
- **System Design**: OOP, Design Patterns, Scalable Architecture

EDUCATION

➔ **Master's in Applied Computing (AI Stream) |** University of Windsor, Ontario, Canada | 8.5/10 **Jan 2024 – Apr 2025**
➔ **Bachelor's in Computer Science and Engineering |** Anna University, Chennai, India | 8.6/10 **Aug 2016 – Oct 2020**

WORK EXPERIENCE

Academic Intern | **Semper8** **Jan 2025 – Apr 2025**

- Developed and maintained full-stack applications using **NestJS (Node.js)** for backend services and **React Native with Expo** for cross-platform mobile frontends.
- Implemented MongoDB as the primary datastore and integrated **Redis** for caching and session control, optimizing query performance and reducing latency.
- Designed and consumed RESTful APIs, integrating AWS services for deployment, scalability, and endpoint management.
- Built CI/CD pipelines using **GitHub Actions, YAML, and Docker** to automate builds, tests, and deployments, accelerating delivery cycles.
- Conducted unit and integration validation using **Jest** and automation frameworks to ensure application stability and consistency across environments.
- Managed project dependencies and workflows using **npm** and Git, enhancing development efficiency and cross-team collaboration.

Associate Software Engineer (SDE) | **Genesys** **May 2022 – Dec 2023**

- Designed and implemented scalable backend services using **Java with Spring Boot**, applying design patterns like the Builder Pattern to ensure modular, testable, and maintainable codebases.
- Built and maintained CI/CD pipelines using **Jenkins and Groovy**, enabling seamless integration and deployment of microservices across multiple environments.
- Developed internal tooling and automation systems using Java, Flask, and Vue.js to replicate production environments, reducing setup time from 2 days to under 3 minutes.
- Integrated RESTful APIs with **AWS services** such as S3 and DynamoDB to manage configuration and data flows across distributed systems.
- Enhanced operational visibility by implementing centralized logging and diagnostics through **Sumo Logic**, reducing triage time and increasing system reliability.
- Collaborated with product and infrastructure teams in Agile sprints, using **Bitbucket and JIRA** for source control and delivery tracking.
- Honored with the **Genesys All-Star Award** for delivering high-impact engineering solutions and proactively resolving key system reliability challenges before production.

Associate Software Engineer | **Accenture Solutions India Pvt Ltd** **Jan 2021 – May 2022**

- Engineered backend automation platforms using **Java and Spring Boot**, leveraging modular architecture to enable maintainability and cross-team scalability.
- Developed a dynamic execution system with **Excel-based runtime configurations**, streamlining logic management and minimizing hardcoded dependencies.
- Managed service deployments via **Jenkins pipelines**, ensuring consistent integration and delivery across staging and production environments.
- Built data validation components using **SQL**, improving business logic accuracy and backend consistency across global applications.
- Integrated **SonarQube** into engineering workflows to enforce code quality standards, support static analysis, and reduce technical debt.
- Created logging utilities and monitoring tools to capture system metrics and UI behavior during runtime, improving developer observability.
- Recognized among Accenture's **Top 10 Software Engineers** for contributions to backend engineering productivity and process automation.

PROJECTS – *view all*

Protein Content Claimer Application **Sep 2024 - Dec 2024**
University of Windsor | Windsor, ON

- Designed and developed an application in collaboration with the Guelph Research Centre to determine if a protein source meets regulatory requirements.
- Utilized Flask, SQLite, NLTK, Bcrypt, and socket programming to ensure accurate data analysis and secure authentication.
- Created a user-friendly interface for efficient protein data input, processing, and validation, delivering clear results aligned with regulatory standards.

Deep learning-based driver distraction detection **May 2024 - Aug 2024**
University of Windsor | Windsor, ON

- Developed a CNN-based driver distraction detection system using Python, TensorFlow, Keras, OpenCV, Pandas, and NumPy, classifying ten distinct driving behaviours to improve road safety.
- Achieved 99.24% test accuracy by integrating DenseNet121, a custom CNN architecture (DARNET), and ensemble learning, fine-tuning hyperparameters for superior model performance.
- Enhanced real-time detection efficiency through data augmentation, feature engineering, confusion matrix analysis, and visualization with Matplotlib, ensuring robustness across diverse driving conditions.

Human vs LLM - Text Detection **Jan 2024 - Apr 2024**
University of Windsor | Windsor, ON

- Developed an AI-powered text classification model using Python, NLP techniques, Word2Vec embeddings, and PCA, achieving 86% accuracy in distinguishing AI-generated and human-written text.
- Implemented binary and multi-class classification models with pre-trained transformers, feature engineering, hyperparameter tuning, and cross-validation, improving precision and recall.
- Optimized model performance through data augmentation and transfer learning, ensuring better generalization across diverse textual patterns and enhancing detection efficiency.

Web-Based Work Life Simulation **Jan 2024 - Apr 2024**
University of Windsor | Windsor, ON

- Developed an interactive web application to simulate a work environment, aimed at enhancing students' job readiness by offering live training and task completion experiences.
- Collaborated with industry partners to integrate real-world training modules, ensuring the simulation accurately reflected workplace dynamics and expectations.
- Built using Bootstrap for responsive design and SQL for data management, alongside other relevant technologies, to provide a seamless and engaging user experience.