KATHAR PATCHA ABDUL RAHIM

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TECHNICAL SKILLS

- **Programming Languages:** Java, TypeScript, JavaScript, Python, SQL
- **Web Development**:
  - **Frontend:** Vue.js, React, React Native, Angular (17+), HTML, CSS
  - **Backend:** NestJS, Node.js, Flask, Django, Spring Boot, RESTful APIs
  - **DevOps & Cloud:** Git (GitHub, Bitbucket), Docker, Kubernetes, AWS (S3, EMR, Lambda, CloudWatch), Azure
- **Testing & QA:**
  - **Automation Frameworks:** Selenium, Playwright, TestNG, Appium
  - **API & Performance Testing:** Postman, REST Assured, JMeter, Load Testing
  - **Test Management & CI/CD:** ALM, JIRA, Bitbucket, Jenkins, GitHub Actions, Groovy, YAML
- **Databases:** MySQL, PostgreSQL, MongoDB, DynamoDB, Elasticsearch
- **Software Engineering & Architecture:** Microservices, OOP, Design Patterns, CI/CD, API Design
- **Big Data & Distributed Systems:** Apache Spark, Hadoop
- **Development Methodologies:** Agile, Scrum, Kanban
- **AI & Machine Learning:** TensorFlow, Scikit-learn, OpenCV, NLP, Computer Vision

EDUCATION

Master's in applied computing, Artificial Intelligence Stream **Jan 2024 – Apr 2025**
University of Windsor | Windsor, ON | 8.5/10

Bachelor's in computer science and engineering **Aug 2016 – Oct 2020**
Anna University, Chennai | Chennai, India | 8.6/10

WORK EXPERIENCE

Technical Analyst | **Central Transport (Part time)** | **Canada** **Mar 2024 – Present**

- Designed and developed **distributed Java-based microservices** using **Spring Boot** and **AWS EC2**, integrating REST APIs for large-scale logistics and billing systems.
- Architected and optimized **data pipelines** leveraging **Kafka** for event-driven communication across multiple microservices.
- Implemented **Elasticsearch** for real-time search, indexing, and analytics of shipment and billing data, improving lookup speed by 40%.
- Managed service reliability using **AWS CloudWatch**, **Docker**, and **Kubernetes**, maintaining uptime and observability across production workloads.
- Collaborated with cross-functional teams to **design scalable solutions** and enforce best practices in microservice design and data synchronization.
- Developed and maintained **CI/CD pipelines** with Jenkins and GitHub Actions, enabling automated testing, deployment, and performance verification.

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

- Contributed to the development of **cloud-native, event-driven systems** using **Node.js (NestJS)**, **AWS Lambda**, and **Kafka**, ensuring scalability and efficient asynchronous processing.
- Integrated **Elasticsearch** into REST API services for **search and query optimization**, improving system-level response times.
- Built **microservices** for data ingestion and real-time updates, leveraging **AWS DynamoDB**, **S3**, and **Lambda** for fault-tolerant cloud architecture.
- Participated in **architecture reviews** and collaborated with senior engineers to align system design with AWS best practices.
- Automated deployments through **Docker**, **YAML**, and **GitHub Actions**, ensuring consistency and version control across environments.
- Enhanced system monitoring and troubleshooting using **AWS CloudWatch** and **Sumo Logic** for log analysis and alerting.

Associate Software Engineer (SDET / QA Automation Engineer) | **Genesys** **May 2022 – Dec 2023**

- Led end-to-end testing for **Speech-to-Text** features in WEM, designing and building robust **Java-based automation frameworks** using advanced design patterns like the **Builder Pattern**.
- Designed and executed **test plans**, facilitated cross-functional **review meetings**, and tracked deliverables using **JIRA** and **Bitbucket**.
- Implemented **CI/CD pipelines** via **Jenkins**, integrating automated tests using **Groovy**, **XML**, and Jenkins UI; conducted **UI testing** with **Selenium** and **API testing** using **Postman** and Java frameworks.
- Boosted productivity by building internal tools and automation scripts using **Java**, **JavaScript**, **Vue.js**, **Python**, **Flask**, **HTML/CSS**, and RESTful APIs; leveraged **Sumo Logic** for real-time log analysis.
- Utilized **AWS S3** for cloud storage and **DynamoDB** for NoSQL database operations.
- Honoured with the **All-Star Award** for exceptional automation framework development and identification of critical redaction bugs.
- Built an internal application that replicated the complete organizational system in under **3 minutes**, reducing environment setup time from **2 days** and accelerating QA cycles.

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

- Developed **200+ automated test cases** using **Java** and **Selenium** with the **Page Object Model (POM)**; also conducted **manual testing** using **ALM**.
- Executed **regression testing** on web applications via **Jenkins** on remote test environments; performed backend data validation using **SQL**.
- Created **Java-based automation suites** for **20+ features**, improving test coverage and product reliability.
- Implemented an **Excel-driven data management system**, simplifying test execution and reducing redundancy.
- Integrated **SonarQube** for static **code quality analysis** and enhanced UI test efficiency with **automated screenshots and error logging**.
- Recognized among **Accenture's Top 10 Software Engineers** for excellence in test automation and quality assurance delivery.

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.