



Akhil Raveendran Pillai

Software Engineer | Java | Spring Boot | Microservices | AI Automation

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Professional Summary

Backend Software Engineer with 5 years of experience designing, modernizing, and delivering scalable Java and Spring Boot applications. Strong expertise in microservices, REST APIs, JPA/Hibernate, clean and hexagonal architecture, CI/CD automation, automated testing, observability, and database optimization. Proven experience improving application maintainability, production reliability, deployment consistency, and engineering quality in cross-functional Agile environments. Recently expanded into AI and automation through postgraduate study and hands on machine learning and deep learning projects.

Core Technical Skills

Backend: Java 8/11/21, Spring Boot, Microservices, JPA/Hibernate, REST APIs, JAX-RS, MyBatis

Architecture: Hexagonal Architecture, Clean Architecture, Microservices Architecture, Event-Driven Architecture, Domain-Driven Design, Cloud Messaging

Testing: JUnit, Mockito, Testcontainers, WireMock

DevOps / Cloud-Native: GitHub Actions, Jenkins, Docker, Kubernetes, CI/CD, Gitflow

Databases: MySQL, PostgreSQL, MongoDB, Microsoft SQL Server, Oracle Database

Observability / Tools: Graylog, IntelliJ IDEA, Visual Studio Code, Postman, Git

AI / Data: Python, scikit-learn, TensorFlow, Keras, CNN, ANN, SimpleRNN, Transfer Learning, Model Tuning

APIs / Platforms: REST, GraphQL (basic), Linux, Windows

Professional Experience

Senior Engineer

Nov 2022 – Dec 2024

QBurst Technologies Pvt. Ltd

India

- Modernized large Java and Spring applications by migrating them to Spring Boot, improving maintainability, deployment reliability, and cloud-readiness.
- Designed and delivered backend microservices using Java, Spring Boot, JPA, REST APIs, and clean/hexagonal architecture principles.
- Built and maintained CI/CD pipelines with GitHub Actions and Jenkins, reducing manual deployment effort and improving delivery consistency.
- Improved production reliability through caching optimization, database query tuning, observability practices, and targeted performance improvements.
- Led code reviews, Gitflow, and repeatable engineering practices to strengthen code quality and development consistency.
- Partnered with solution architects, product owners, and engineering teams to translate business requirements into scalable technical solutions.

Software Engineer

Jun 2021 – Nov 2022

Gadgeon Smart Systems

India

- Developed and validated backend APIs using Java, JUnit, Mockito, and Testcontainers, improving service quality and deployment readiness.
- Collaborated with frontend and platform teams to resolve integration blockers and support reliable end-to-end service delivery.
- Supported CI/CD and release workflows by validating builds, troubleshooting integration issues, and improving automated test coverage.
- Participated in sprint planning, backlog refinement, demonstrations, and retrospectives in an Agile delivery environment.
- Shared technical findings and supported consistent API integration and testing practices across the engineering

team.

Junior Software Engineer

Benefitalign Technologies Pvt. Ltd

Jul 2018 – Jun 2021

India

- Developed and maintained enterprise REST services using Java, JAX-RS, Spring, and MyBatis.
- Implemented EDE integrations for high-volume Open Enrollment periods, supporting reliable data processing and system stability under increased production load.
- Diagnosed backend and integration issues, delivered code fixes, and improved service maintainability in a complex enterprise environment.
- Supported deployment and production-readiness activities through service testing and cross-functional coordination.
- Built reusable backend components and documented implementation details to improve team knowledge sharing.

AI and Automation Projects

Housing Price Prediction and Model Optimization

2024–2025

- Built a Python/scikit-learn regression workflow with imputation, scaling, train/test splitting, and comparison of Linear Regression, Decision Tree, Random Forest, and SVR models.
- Applied GridSearchCV and RandomizedSearchCV for hyperparameter tuning; best Random Forest result achieved $R^2 = 0.8261$ and $MSE = 0.1760$.

Fashion-MNIST Image Classification

2024–2025

- Developed TensorFlow/Keras CNN and fully connected classifiers using normalization, dropout, validation tracking, and test evaluation.
- Achieved 90.93% CNN test accuracy versus 86.71% for the fully connected network.

Transfer Learning Flower Classification

2024–2025

- Built an image-classification pipeline using an ImageNet-pretrained Xception backbone, frozen feature layers, global average pooling, and a custom softmax head.
- Used `tf.data` batching/prefetching and train/validation/test evaluation; achieved 85.45% test accuracy.

Deep Learning Architectures and Air-Quality Regression

2024–2025

- Implemented ResNet-34 residual blocks from scratch using convolution, batch normalization, shortcut connections, and global average pooling.
- Experimented with ANN and SimpleRNN models for air-quality regression using feature scaling, dropout, early stopping, and MAE/MSE evaluation.

Education

Master in AI & Automation, University West, Sweden

2024 - 2025

B.Tech in Computer Science and Engineering, Amrita University, Kerala, India

2014 - 2018

Certifications and Recognition

Robot Certificate (ABB)

Mar 2025

Learn Java Unit Testing with JUnit & Mockito

Jun 2021

Shining Star Award

Q1 2020

UAE Application Details

Target Location: United Arab Emirates

Visa Status: Visting Visa

Availability / Notice Period: Immediate joining

Current Location: Dubai, United Arab Emirates