Abhishek Mehra

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Summary

Results-driven software engineer with expertise in production engineering, automation, and data-driven tools. Skilled in Java, Python, and cloud services (AWS), with experience building scalable systems and semantic search pipelines that streamline global operations and reduce manual workloads.

Areas of Interest: Software Engineering, Automation, Data Engineering, Cloud Services, Machine Learning

Professional Experience

Software Engineer (Associate), Nomura Securities, Tokyo, Japan   Oct 2022–Present
- Production support for Java-based front-office equity systems, achieving a 90% reduction in monitoring alerts.
- Developed a Retrieval-Augmented Generation (RAG) tool for semantic search to suggest fixes from known issues and past incidents, significantly reducing manual lookup effort.
- Created runbook documentations (index refresh, disaster recovery) for smoother global team handovers.

Software Engineer, Yokogawa Electric, Tokyo, Japan   Oct 2020–Oct 2022
- Led CRM rollout for India and UAE, integrating Japan-based system with legacy regional systems
- Built REST APIs (Java 8, Spring Boot) to expose service ticket data as clean JSON for customer facing customer portal
- Wrote Python and SQL scripts to clean and migrate legacy text data and created integration/runbook documentation for global teams.

Data Science Intern, Yokogawa Electric, Tokyo, Japan   May–Jul 2019
- Prototyped a semantic search tool using backend service data; built pipelines in Elasticsearch to index documents with NLP-extracted metadata from AWS Comprehend and IBM Watson for key details.

Education

Indian Institute of Technology (IIT), Ropar, India   Aug 2016–Jun 2020
Bachelor of Technology (B.Tech.)   *Department Rank: 4, CGPA: 8.25/10*
School: SGGS School, Chandigarh, India (Intermediate, 96%)

School: AKSIPS School, Chandigarh, India (Matriculation, CGPA: 10/10)

Projects and Certifications

Mercari Shopping Agent (Github)   2025
Built a Python shopping agent that uses OpenAI function calling to search Mercari Japan and surface top recommendations matching the user's budget, shipping preferences, and quality constraints

AI Agent System (Github | Report)   Oct 2025
Developed a scalable FastAPI AI app for secure, isolated code execution supporting multiple concurrent users. Engineered auto-scaling infrastructure on AWS (ECS/Fargate, API Gateway, DynamoDB) to ensure 100% uptime and reliable performance for production-level workloads.

Abstractive Text Summarizer (IIT Ropar) (Project Report)   Apr 2020
LSTM sequence-to-sequence model for text summarization. Evaluated using ROUGE metric.

Neural Networks and Deep Learning (Coursera, deeplearning.ai) (Certificate)   Jul 2020
Completed certification in deep learning fundamentals.

Data Structures and Algorithms (Coursera) (Algorithmic Toolbox) (Data Structures)   Jun 2018
Completed certifications: Algorithmic Toolbox, Data Structures.

Skills

Programming: Java, Spring Boot, Python, SQL, Bash, Git, Docker, Kubernetes
Tools/Frameworks: AWS, Transformers, PyTorch, TensorFlow, Elasticsearch, Linux, CI/CD pipelines, Kafka, SDLC, Agile, Git
Coursework: Data Structures, Algorithms, Advanced Calculus, Probability Theory, Machine Learning, Applied AI

Responsibilities and Miscellaneous

Batch Representative: Liaison between students and professors to ensure effective training (2018-19)
Sports: Central defender, football team at Inter IIT Sports Meet, IIT Madras (2017)
Cultural: Editor in film making team at Inter IIT Cultural Meet, IIT Roorkee (2018)