

# PADMESH NAIK

## Software Engineer

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LinkedIn



GitHub



Portfolio

### SUMMARY

Software Engineer with 3+ years of expertise in building scalable solutions across e-commerce, IoT, and fintech domains. Proven track record of optimizing system performance, implementing cloud-native architectures, and delivering data-driven solutions. Passionate about creating robust applications that drive business value. Strong foundation in agile methodologies and modern software development practices.

### SKILLS

**Programming Languages:** Python, Java, Javascript, TypeScript, SQL

**Frameworks:** NumPy, Pandas, Scikit-learn, TensorFlow, PyTorch

**Web Development:** HTML5, CSS3, XML, React, Angular, Bootstrap, Node.js, Express.js, Spring Boot, Flask, Django, RESTful APIs

**Database Technologies:** MySQL, PostgreSQL, MongoDB, Cassandra

**Big Data & Analytics:** Apache Spark, Hadoop, Apache Kafka, MapReduce, HDFS (Hadoop Distributed File System)

**Cloud Platforms:** AWS (EC2, S3, Lambda, Redshift, Elastic Load Balancing), Microsoft Azure (Virtual Machines, Databricks)

**Version Control and Testing:** Git, GitHub, Junit, Unit Testing

**DevOps & Containerization:** Docker, Kubernetes, Jenkins, Apache Airflow, MLOps

### EDUCATION

**Master of Science in Computer Science** | Worcester Polytechnic Institute (WPI), MA | **GPA : 3.8/4.0**

**May 2024**

**Bachelors in Computer Engineering** | University of Mumbai, India | **CGPI : 8.16/10**

**October 2020**

### PROFESSIONAL EXPERIENCE

**Software Engineer** | CTP, New York

**August 2024 - Current**

- Created a scalable e-commerce platform using **Shopify themes, Liquid templating, and JavaScript**, integrating custom plugins (**SEO Booster**) to enable dynamic product filtering, personalized recommendations, and automated order tracking functionality.
- Developed and deployed backend infrastructure using **AWS EC2, RDS, API Gateway, VPC, and Secrets Manager**, implementing secure networking and automated database operations to support global accessibility and concurrent user requests.
- Engineered **REST APIs** and optimized **MySQL** database schemas with efficient indexing strategies, utilizing **AWS** infrastructure to enhance query performance and enable seamless integration between Shopify frontend and backend services.

**Software Developer Intern** | Clearly Energy, Maryland

**January 2024 – April 2024**

- Engineered a web application using **Angular.js** and **Django**, implementing interactive maps and energy policy compliance tracking features for building management across multiple jurisdictions.
- Implemented **Docker** containerization and **Jenkins CI/CD** pipelines for automated deployment and testing, reducing deployment failures by 18% and enhancing application reliability.
- Developed comprehensive geospatial features using OpenLayers, including address search functionality, dynamic filter menus, and data points clustering for efficient visualization.
- Optimized database performance through schema normalization and **SQL** indexing strategies, resulting in 22% improvement in data retrieval efficiency for large-scale property datasets.

**Software Engineer Intern** | Building Assure PBC, Massachusetts

**May 2023 – August 2023**

- Implemented a real-time IoT monitoring system using **React** and **Node.js**, integrating GoRules Engine for decision-making, resulting in streamlined alert generation and enhanced system responsiveness for environmental metrics including CO2, temperature, and humidity.
- Engineered scalable data pipelines using **AWS Lambda, Python, and Apache Kafka** for real-time data streaming and processing, integrated with **MongoDB** for efficient data persistence, leading to a 25% improvement in data processing speed and enhanced system scalability.
- Developed comprehensive API endpoints and **MongoDB** database operations for IoT sensor data management, implementing rule-based alert generation systems and real-time data transformation logic across multiple environmental parameters.
- Established robust testing infrastructure using **Jest** and **Mocha**, creating unit and acceptance tests for API endpoints and product features, ensuring system reliability and maintaining code quality through automated test coverage.

**System Software Engineer** | Tata Consultancy Services, India

**September 2020 - August 2022**

- Architected and implemented end-to-end CI/CD pipelines for microservices-based absenteeism analysis system using **Jenkins, Docker, and Kubernetes**, reducing deployment time by 30% and improving release reliability through automated testing and containerization.
- Developed and optimized **ETL** data pipelines for processing employee absences records using **Python, Apache Spark, and Snowflake**, reducing processing time from **9 hours to 3.5 hours** by implementing parallel processing, enabling timely workforce planning and reporting.
- Engineered machine learning models (XGBoost and LightGBM) for estimating time of arrival (ETA) in the automotive parts supply chain, integrating **AWS S3, Snowflake** and **Tensorflow** to enhance delivery accuracy and optimize inventory management.
- Collaborated with product teams to translate business requirements into technical specifications, conducted root cause analysis using logging and monitoring tools, and implemented targeted fixes, achieving **91%** user satisfaction in post-release surveys.
- Led data analysis initiatives using **Python** and **SQL** to analyze 30 years of customer purchase patterns, implementing **Random Forest** models for churn prediction and price optimization, improving customer retention through targeted strategies.

## PROJECTS

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**Consignment Shop:** Developed a web application that improves online shopping for computers by offering sorting, filtering, and comparison features, by utilizing technologies such as **React.js** for front-end, **AWS Lambda** for back-end operations, and **MySQL** for database management.

**Online Book Store:** Developed an online bookstore platform using **React** and **Node.js**, integrating advanced search features, real-time book rating updates, and secure user registration and login through authentication and authorization mechanisms.

**MLOps for Sales Prediction:** Automated end-to-end machine learning lifecycle for forecasting future sales trends and revenue predictions using **Jenkins, Docker, Airflow, and MLflow**. Developed CI/CD pipelines to streamline data ingestion, model training, deployment, and monitoring, ensuring reliable and actionable predictions for optimizing business strategies.

**Stock Price Prediction:** Designed and implemented a four-layer **Long Short-Term Memory (LSTM)** model with dropout regularization using Keras and TensorFlow to predict Google stock prices, showcasing accurate trend predictions.

## PUBLICATIONS AND RESEARCH WORK

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**Image Forgery: Detection of Manipulated Images Using Neural Network Presented at IC-RACT:**

Abstract: This research proposes a dual- approach image manipulation detection system combining metadata analysis and CNN technology. The system employs Error Level Analysis to identify compression anomalies and leverages a CNN model to detect forged images.

This paper was featured on SSRN's **Top 10 download list** (600+ downloads) in the "Forensic Photography & Imaging eJournal" category.

## CERTIFICATIONS

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**AWS Certified Cloud Practitioner**

**Azure Fundamentals**

**Azure Data Scientist**