Nayan Ghate

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PROFESSIONAL SUMMARY

Multi-skilled Software Development Engineer with hands-on experience in full-stack web development, backend systems, and AI-based applications.. Proficient in developing scalable backend architectures, multithreaded applications, and real-time data processing systems with high performance and low latency. Strong foundation in object-oriented programming, database optimization, and frontend technologies like HTML, CSS, and JavaScript. Successfully architected and validated end-to-end projects including Drive Clone and E-commerce Recommendation Systems. Proficient in writing clean, maintainable code, deploying services, and collaborating in fast-paced development environments.

EDUCATION

Shri Ramdeobaba College of Engineering and Management, Nagpur, India
B.Tech (Honors) in Information Technology, Expected June 2027 | CGPA: 8.83

WORK EXPERIENCE

Summer Industry Innovation Internship (2025)
RCOEM TBI Foundation | TechWalnut Innovations LLP | IEEE Student Branch, RBU | Duration: 3 Months
• Developed a Font Recognition Model using Machine Learning, Deep Learning, and CNN architectures for printed text classification.
• Implemented transfer learning with MobileNetV2, including image preprocessing, feature extraction, and multi-class classification.
• Trained and evaluated the model using Python, TensorFlow/Keras, and OpenCV, achieving ~93% accuracy.
• Generated confidence percentage–based predictions and validated results using real-world printed samples.

AWS Academy Graduate – Data Engineering
Amazon Web Services (AWS) Academy
• Acquired practical experience in data engineering workflows, including data ingestion, transformation, and analytics pipelines.
• Worked with relational and NoSQL databases, understanding data modeling, ETL processes, and performance optimization.
• Learned to design scalable data architectures on AWS, integrating cloud services for data storage, processing, and analysis.

PROJECTS

AI-Based Exam Evaluation Platform | Next.js, Supabase, AI, SQL
• Designed a full-stack platform to automatically evaluate student answers using rule-based NLP scoring and transformer-based text similarity models.
• Implemented secure authentication, role-based dashboards, and result storage using Supabase (PostgreSQL).
• Automated result analysis and report generation, reducing manual evaluation effort by ~60%.
• Built scalable APIs and optimized SQL queries to support multiple exams and concurrent users with low latency.

FontSense – Font Recognition System | Python, Deep Learning, CNN, OpenCV
• Developed a deep learning system to detect and classify font types using Convolutional Neural Networks (CNN).
• Implemented custom CNN architecture and transfer learning (MobileNetV2) with image preprocessing and feature extraction.
• Trained and evaluated models using TensorFlow/Keras, achieving ~92–94% classification accuracy across multiple font classes.
• Validated predictions using real-world printed samples with confidence score–based outputs.

Multimodal Intelligent Surveillance System | Computer Vision, Audio Processing, Deep Learning
• Designed a multimodal security system integrating video, audio, and transcript analysis using deep learning models.
• Implemented background subtraction and optical flow–based motion detection to trigger CCTV recording only on movement.
• Developed danger detection using CNN-based video analysis and audio anomaly detection models, achieving ~90% detection accuracy.
• Automated real-time alerts and warnings, reducing false recordings and improving response time by ~40%.

Air Quality Prediction System | Python, Machine Learning, Pandas, Scikit-learn
• Built an air pollution forecasting system using Linear Regression and Logistic Regression models for AQI prediction and classification.
• Enhanced predictions with Random Forest Regressor for non-linear trend handling and improved accuracy.
• Performed extensive data cleaning, preprocessing, and feature engineering, ensuring >98% data completeness.
• Achieved ~85–90% prediction accuracy validated using RMSE, MAE, and cross-validation techniques.

TECHNICAL SKILLS

• **Languages**: Java, Python, JavaScript, SQL, HTML, CSS, C++, Shell Scripting • **Databases:** MySQL, PostgreSQL, MongoDB
• **Backend Frameworks:** Spring MVC • **Machine Learning:** Supervised Learning (Regression, Classification), Cross-Validation, Predictive Modeling
• **Data Analytics:** SQL Queries, Data Cleaning, Feature Engineering, Visualization (Matplotlib, Pandas)
• **Tools:** Git, Postman, JUnit, Jupyter, VS Code, IntelliJ, Eclipse • **Cloud Platforms:** AWS (S3, EC2), Google Cloud

CERTIFICATIONS

• Hackathon participant with hands-on experience solving real-world problems.
• Coursera certifications in DDoS Attacks and Defenses, MongoDB Aggregation Framework, Cybersecurity Architecture , Crash Course on Python
• Cisco certification in Industrial Cybersecurity Essentials , Networking Devices and Initial Configuration

HONORS AND AWARDS

• **Board of Director –** *Rotaract Club of RBU* (Affiliated with Rotary International) — Serving since 2024
• **Solved 500+ algorithmic problems** across LeetCode, CodeChef, HackerRank ,and InterviewBit,