

Nihar Lodaya

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EDUCATION

Marist University, Poughkeepsie, NY

Master of Science in Computer Science

Coursework: Database Management Systems, Networking, Cloud Computing, Artificial Intelligence, Parallel Processing, Software Design and Development, Security Algorithms & Protocols

August 2023 – May 2025

GPA: 3.67/4.0

Mumbai University, Mumbai, India

Bachelor of Science in Computer Science

Coursework: Discrete Mathematics, Database Systems, Calculus, Operating System, Advanced Java, Computer Networks, .NET Technologies, Fundamentals of Algorithms, Web Services, Deep Learning, Linear Algebra

June 2019 – May 2022

GPA: 3.2/4.0

PROFESSIONAL EXPERIENCE

Research Assistant, Marist University

July 2025 – Present

- Spearheaded the development of an AI-driven prototype for healthcare diagnostics, integrating Python-based machine learning models with real-world datasets.
- Designed and implemented modular backend components using Python, enabling scalable data processing and streamlined model integration.
- Built internal dashboards using Flask and Chart.js to visualize research insights and streamline faculty reporting.

Software Engineer, Aurionpro

May 2022 – August 2023

- Engineered and maintained enterprise-grade Java/Spring Boot applications and RESTful APIs, enabling secure processing of ~400K daily transactions with session management and real-time socket communication modules
- Designed and deployed 12+ containerized microservices on AWS and Oracle Cloud using Docker, Kubernetes, and Helm, accelerating delivery by 40% through Jenkins-based CI/CD pipelines and Git version control
- Partnered with cross-functional Agile teams to ship 30+ features with a 95% on-time release rate, leading sprint planning, backlog grooming, and release cycles using JIRA, Confluence.
- Refactored backend architecture and optimized SQL/NoSQL queries, improving average API response times by 35%, cutting production issues by 40%, and enhancing autoscaling during load spikes
- Integrated monitoring and alerting with Prometheus, Grafana, and ELK stack to reduce mean time to detect (MTTD) and downtime by 25%, streamlining debugging with custom dashboards
- Collaborated with security and DevOps teams to implement SSO-based authentication, RBAC, and encryption protocols, ensuring end-to-end compliance with enterprise data protection standards
- Followed clean code principles, wrote unit/integration tests, and participated in peer code reviews to ensure high code quality and maintainability across services

SKILLS

Programming Languages: Java, Python, JavaScript, HTML, CSS, C++, PHP, C, Processing, UNIX Shell Scripting

Databases & Cloud: AWS, MySQL, SQL, Oracle, RDBMS, MongoDB, Azure, Microservices

Frameworks & Libraries: Spring, Spring Boot, React, Angular, jQuery, Bootstrap, Node.js, Ajax, REST APIs, APIs, SOA

Tools & Technologies: Git, Jenkins, Docker, CI/CD, Gradle, Machine Learning, JSON, XML

Others: Agile, Algorithms, OOPS, Performance tuning, J2EE, JDBC, Junit, Maven, Spring MVC, Waterfall, SVN, Servlets, SDLC

PROJECTS

Emotune: Audio Emotion Analyzer

- Trained a 1D-CNN on the RAVDESS dataset (2,440 audio clips across 8 emotions), extracting 40 MFCC features per sample using Librosa
- Achieved 94.8% accuracy and 0.95 macro F1-score on the test set after 50 epochs, reducing preprocessing time by 20% through optimized TensorFlow data pipelines
- Implemented dropout and max-pooling layers to prevent overfitting, boosting minority-class F1 by 12% in underrepresented emotions.
- Visualized performance with confusion matrix and classification report, ensuring > 90% recall across all emotion classes

JavaMovieDatabaseApp

- Created a full-stack movie management platform, building a Java Spring Boot RESTful API backend connected to JavaFX user interface
- Implemented critical functionalities like user authentication (session-based), CRUD operations for movie listings, user-generated reviews, role-defined access (Admin/User)
- Employed Spring Data JPA for MySQL data persistence within an MVC structure and established robust security protocols with Spring Security with RBAC enforcement.

The Hero's Journey - 2D Action-Adventure Game

- Developed a 4-level 2D side-scroller game in 3 months using Processing, featuring platforming, character upgrades, varied levels, and narrative element with boss fights and item pickups.
- Authored comprehensive design documents to streamline QA and collaboration and tuned the game loop for a stable 60 FPS on Mac and Windows through optimized spirit handling.

Getaway - www.getaway.vercel.app

- Independently built "Getaway," an online hotel-booking platform, from idea to launch in three weeks
- Implemented end-to-end booking, payment, and image workflows, then deployed with zero-downtime releases on Vercel
- Crafted a seamless UX with intuitive navigation, secure Stripe payments, and optimized MongoDB queries for fast searches