

Piyush Manoj Gulhane

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EXPERIENCE

Graduate Grading Assistant

January 2025 - December 2025

University at Buffalo

Buffalo, NY

- Mentored 200+ students through DBMS and Computer Vision projects, clarifying ER design, SQL, face detection, and clustering, enhancing student understanding and project outcomes and increasing student project completion rate by 80%.
- Led quiz and assignment design efforts alongside faculty, developed automation scripts to grade project submissions, reducing manual grading effort from 7-8 hours to just 30 minutes, streamlining course logistics for timely academic delivery.

Software Engineer

July 2021 - August 2024

Tata Consultancy Services

Pune, India

- Led the end-to-end architecture and scalability of 8+ core microservices using Java, Spring Boot, Node.js, and Kafka, designing robust RESTful services for seamless integration with financial systems and implementing CI/CD pipelines.
- Spearheaded the design of secure BKYC and Wallet Transfer modules, ensuring 99.98% adherence to global AML/CTF regulations while handling sensitive financial data, reducing fraud by 40%.
- Promoted to Lead BPM Design for KYC case workflow after re-architecting a three-tier Camunda workflow engine, which slashed SLA breach rates from 42% to 8%, addressing the bottlenecks in the BKYC lifecycle.
- Engineered a custom OCR and Fuzzy Matching pipeline to extract and validate document IDs against internal records with an 80% similarity threshold, automating approval workflows and reducing manual review overhead.
- Authored API and user documentation and deployment guides, mentored 3 new developers to facilitate rapid onboarding and drive best practices in code reviews.
- Managed project releases to production, adhering to SDLC best practices, with less than 1% post-release defects, sustaining 99.9% system uptime through active monitoring with Elasticsearch.
- Optimized CouchDB database queries, resulting in 33% reduction in query latency and improved application performance.
- **Tech Stack:** Java, Spring Boot, Kafka, Angular, Node.js, Elasticsearch, Redis, RabbitMQ, CouchDB, AWS, Jenkins.

Software Engineering Intern

May 2020 - July 2020

BizTime IT Solutions

Remote

- Implemented a Grievance Redressal System using the MERN stack, enabling time-bound escalation of complaints across management levels with a timeline-style UI for real-time tracking, improving employee satisfaction by 53%.
- Established secure CRUD operations for database interactions featuring AES encryption protocols to ensure the protection of ticket data across applications, resulting in streamlined processes handling upwards of 5K employee submissions monthly.

PROJECTS

Graduate Research Assistant

June 2025 - December 2025

University at Buffalo (Advisor: Prof. Alina Vereshchaka)

Buffalo, NY

- Explored SSL frameworks (SimCLR, MoCo v3, BYOL) and AI techniques to classify Alzheimer's disease from unlabeled MRI scans, achieving up to 87% accuracy and outperforming baselines, reducing training time by 77%.
- Demonstrated cross-domain generalization to Brain Tumor (> 93% accuracy), Parkinson's(>95% accuracy), and Multiple Sclerosis(96.3%) with minimal labeled data and leveraged Grad-CAM and quantitative metrics to enhance explainability.
- Presented research findings at **IEEE CogMI Conference** and published a paper titled '*Self-Supervised MRI Representation Learning for Cross-Domain Brain Disease Classification*', showcasing expertise in data analytics and research methodologies.

CERTIFICATIONS AND COMPETITIONS

AWS Certified Developer – Associate: Validated expertise in developing, deploying, and maintaining applications on AWS; proficient in utilizing core services like EC2, Lambda, DynamoDB, CloudWatch, and S3 to build scalable, cloud-native solutions.

Competitive Programming (Leetcode): Ranked in the top 9% globally, across 65+ timed weekly contests reflecting consistent performance; solved 850+ problems showcasing proficiency in data structures and algorithms.

EDUCATION

SUNY - University at Buffalo

August 2024 - December 2025

M.S. in Computer Science and Engineering

3.96/4.0

Pune University - PICT

August 2017 - June 2021

B.E. in Computer Science

3.76/4.0

TECHNICAL SKILLS

Expertise: Java, Spring Boot, React, Express/Node, TypeScript, Kotlin, REST API, Hibernate, MySQL, MongoDB, SQL Server, Oracle, PostgreSQL, Redis, HTML5/CSS3, Python, JavaScript, C, C++, C#, Go, Kafka, Camunda, Web API, OAuth, Data Structures and Algorithms, Object-Oriented Programming, Design Patterns, Jira, Confluence, Test Driven Development

Cloud DevOps: AWS, Azure, GCP, NGINX, Docker, Kubernetes, Terraform, Jenkins, CI/CD, Git

Product Management concepts: Agile SDLC, Feature Prioritization, System Architecture and Design, Sprint planning.