

# Munmi Thakuria

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## SUMMARY

Experienced Software Engineer with 5+ years of experience in DevOps, cloud infrastructure (AWS), and automation, currently working on Agentic AI and LLM-powered RAG systems. Recently completed an MS in Computer Science with published research in deep learning for healthcare (IEEE Big Data 2024). Skilled in building scalable CI/CD pipelines, HPC cluster workloads, and AI-driven web apps.

## PUBLICATION

[Deep Learning Models for Diabetic Retinopathy Detection: A Comparative Study](#) 2024 IEEE International Conference on Big Data

## SKILLS

**Programming & Scripting :** Python, FastAPI, Bash, R, YAML

**DevOps & Automation :** Docker, Kubernetes, Chef, Jenkins, GitLab, CI/CD frameworks, Postman (API testing), Power Apps

**Cloud & Databases :** AWS, SQL, Redis, MongoDB, Pinecone VectorDB, Azure AI Search

**AI & Machine Learning :** TensorFlow, PyTorch, scikit-learn, NumPy, Pandas, Matplotlib, AgenticAI, Agents, LLM, LangGraph, Prompt Engineering, Langchain, Azure AI Embedding, HuggingFace Embedding

**HPC & Distributed Systems :** HPC clusters, Slurm scheduler jobs

**Front-End & Data Visualization :** ReactJS, CSS, HTML, Tableau

**Developer Experience & Documentation:** Docusaurus, Markdown, Technical Writing, Documentation Automation

## WORK EXPERIENCE

**IT Intern - Johnson Electric, Plymouth, MI, USA**

**Jun 2025 - Present**

- Developed agentic RAG-based applications leveraging LangGraph, Pinecone VectorDB, and Azure AI Search to enable intelligent, scalable retrieval workflows. Assisting in a data migration initiative from Excel to SharePoint by automating workflows using Power Apps and Power Automate. Developed RESTful APIs using FastAPI to connect an enterprise data warehouse to a chatbot interface powered by Azure AI Search and LLMs; enabled dynamic SQL query execution based on user prompts.

**Graduate Assistant - Grand Valley State University, Allendale, MI, USA**

**Aug 2024 - Apr 2025**

- Evaluated four advanced deep learning models (custom CNN, VGG19, ResNet50, ViT) classify diabetic retinopathy stages.
- Assessed performance using metrics like accuracy, F1-score, and AUC-ROC, providing insights for model optimization and predictive analytics. Worked on HPC clusters, Slurm scheduler jobs, Libraries like TensorFlow, PYTorch, sklearn, matplotlib, numpy, pandas

**IT Services Student Employee - Grand Valley State University, Allendale, MI, USA**

**Feb 2024 - Apr 2025**

- Identity Access Management, MFA Setup/Reset, Microsoft Products assistance, Windows OS/ MAC OS Support, troubleshooting, educating users, customer service

**Systems Engineer - Tata Consultancy Services, Bangalore, India**

**Nov 2022 – Jul 2023**

- Developed CI/CD pipelines for AWS components and implemented CI/CD in GitLab using various DevOps tools.
- Migrated over 25 components from on-premises to AWS, configuring and deploying AWS services and utilizing Helm in Kubernetes.
- Authored Docker files for container image creation and developed Python & Shell scripts for automation, including dashboards with Grafana and Prometheus.
- Developed Python scripts to integrate CI/CD pipelines with GitLab APIs and conducted comprehensive API testing using Postman to ensure robust and automated workflows.
- Actively participated in bug fixing, troubleshooting, and Agile SDLC practices—including problem solving during SPRINT cycles—to drive continuous process improvements.

**Software Engineer - Envestnet Yodlee, Bangalore, India**

**May 2018 - Nov 2022**

- Developed Python scripts integrated with GitLab for automation and built CI/CD pipelines for both AWS and on-prem environments.
- Deployed JBoss components—including migrating from JBoss 5 to JBoss 10—using Chef recipes and Docker files, while managing major code releases across datacenters with proactive bug fixing and troubleshooting.
- Configured and deployed AWS services (AMI, EC2, S3, auto-scaling, security groups), and handled stage/production databases.
- Automated manual tasks with Bash scripting, supported client onboarding and provisioning, and utilized JIRA, Confluence, and ServiceNow for issue tracking, with monitoring via Splunk.

**Project Trainee - Envestnet Yodlee, Bangalore, India**

**Nov 2017 - May 2018**

- Deployed components across QA, Staging, and Production environments ensuring consistent and reliable releases.
- Automated several workflows using Shell scripting to improve operational efficiency, actively participated in and managed major code releases across multiple datacenters.

## ACADEMIC PROJECTS

**Quiz Application Powered by AI:** Developed an interactive web quiz app leveraging OpenAI API with prompt engineering to dynamically generate quiz questions and options, using React, NodeJS, and Tailwind CSS.

**Ottawa County Sheriff Incident Responses:** Created real-time data visualizations of sheriff incident responses in Ottawa County using Tableau.

**Color Generator Website:** Built a user-friendly web app for generating customizable color palettes for design, using React and CSS.

**Hyper-spectral Image Classification:** Developed high-accuracy models for classifying satellite hyper-spectral images using MATLAB and machine learning algorithms.

**Banking Management System:** Designed an application to streamline banking management and reduce errors, utilizing JavaScript, MySQL, and Wamp.

## EDUCATION

**Masters of Science in Applied Computer Science,** Grand Valley State University, Allendale, MI, USA

GPA 4.0

Aug 2023 - Apr 2025

**Bachelor of Technology in Computer Science & Engineering ,** Assam Don Bosco University, Assam, India

GPA 3.5

Aug 2013 - Jun 2017