

# Vaishnavi Pradip Gayke

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## PROFESSIONAL EXPERIENCE

### Binghamton University, Graduate Assistant

02/2024 | Binghamton, US

- Developed a multilingual **analytics dashboard** for **5 campus** libraries using **Node.js, Express, and Vue.js**, integrating ML algorithms to enhance data-driven decision-making.
- Automated **ETL pipelines in Java** with **Spring Boot and Apache** Airflow, reducing processing cycle time by **40%** while ensuring compliance with data governance standards.
- Collaborated** with librarians and data science teams to define dashboard requirements and implement monitoring processes to improve system reliability.
- Secured library data with robust management practices, maintaining **accuracy and compliance**.

### Varian Medical Systems, Software Developer

08/2021 – 06/2023 | Pune, India

- Developed and maintained **Java-based backend** microservices with **Spring Boot and Hibernate**, integrating **Kafka** for event streaming and Redis for caching to ensure scalable, reliable processing of **high-volume data streams upto 500K+** patient events daily.
- Collaborated in Agile sprints using **Git for version control** to extend and maintain microservices integrating **patient data** across **70+ global** medical centers, enhancing data **consistency** and deployment **traceability**.
- Designed and implemented robust **CI/CD workflows** using **Jenkins** pipelines, **Docker** containers, and **Kubernetes**, slashing release cycle time **by 67%** and maintaining uptime by automated health checks and rollback mechanisms.
- Optimized **SQL queries** and implemented strategic indexing in **MySQL and PostgreSQL** to improve data retrieval performance and support **high-volume transaction** workloads.
- Implemented Python-based automation scripts for data validation and reporting, reducing manual processing time and improving the accuracy of compliance reports.

## PROJECTS

### Microservices E-Commerce Platform

- Developed modular microservices for product catalog, shopping cart, and checkout with Spring Boot, handling **high-volume API traffic** and ensuring above 96% service availability.
- Configured **Spring Cloud Gateway** for unified API routing, reducing client-side latency **by 25%**.
- Containerized services with **Docker and deployed on Kubernetes**, enabling zero-downtime rollouts.

### Detection of Cardiac Arrhythmia

- Developed an IoT-based **ECG data collection system** using **Arduino and Python** to ensure continuous, high-quality data acquisition essential for **accurate arrhythmia detection**.
- Engineered a **ResNet-based neural network in Keras** that achieved high accuracy in **classifying cardiac conditions**.
- Implemented a real-time **ECG signal preprocessing pipeline to filter noise effectively**, significantly improving the **reliability and performance** of the classification model.
- Published findings in IJAR SCT Journal**, demonstrating the model's **clinical applicability**.

### Scalable Task Scheduling Service

- Designed a cloud-native **task scheduling** microservice using Quartz integrated with **Spring Boot**, supporting concurrent **execution of thousands** of scheduled jobs **per minute**.
- Utilized Redis for **caching job metadata** and managing scheduling state, ensuring **quick and consistent** performance.
- Established end-to-end **CI/CD pipelines** with Jenkins and GitLab CI, automating build, test, and deployment processes to the Kubernetes cluster, reducing manual deployments **by 80%**.

## TECHNICAL SKILLS

**Technologies:** — Python, C, C++, C#, Java, Spring Boot, Spring Cloud, RESTful Webservices, JavaScript, Hibernate, Kafka, Docker, Kubernetes, React, HTML5, CSS3, Maven, Apache Tomcat, React, Flask, Django, Microsoft Azure, AWS, GCP | **Databases:** Oracle DB, MySQL, PostgreSQL, MongoDB, Redis, Amazon RDS, DynamoDB | **Tools:** Eclipse, Spring Tool Suite, IntelliJ, Visual Studio Code, Jupiter Notebook, Splunk, Git, GitHub, Jenkins, Jira, Linux, Windows 8, 10, 11

## HONORS & AWARDS

**Second Prize, QubitX Hacks Hackathon**

03/2024

**Best Technical Hack Award, HackBU Hackathon**

02/2024

## EDUCATION

**Binghamton University, Master's in Computer Science**

Binghamton, US

**Relevant Coursework:** Database, Machine Learning, Operating Systems, Data Structures & Algorithms, Cyber Security, Computer Networks, Programming Languages, Artificial Intelligence, Computer Security, Web Development