

# Pushpak Vijay Katkhede

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## EDUCATION

### Master of Science - Computer Science (MS)

Oregon State University, Corvallis, Oregon

Expected: Jun 2024

*Courses – Software Engineering Methods, Algorithms (Design, Analysis, and Implementation)*

### Bachelor of Engineering - Computer Engineering

Savitribai Phule Pune University, Pune, India

Completed: Jul 2019

CGPA: 8.10/10

*Courses – Data Structures, OOP, Database Management Systems, SW Modelling and Design, SW Project Management.*

## TECHNICAL EXPERTISE

**Programming Languages:** Python 3, C++, JavaScript, Java, Shell | **Database:** MySQL, IBM DB2 | **Version Control:** Git, GitHub

**Web Technologies:** HTML/CSS, Bootstrap, XML, JSON, WebSocket's | **Frameworks:** Flask, SQLAlchemy, REST API, NodeJS

**Other:** PowerBI, Cognos Analytics, Grafana, Jira, ServiceNow, Rundeck, RedHat OpenShift Docker, Kubernetes, GitHub Actions, Visual Studio, Jupyter Notebook, PyCharm, PuTTY, AWS Cloud, AI-based Observability, YAML, Microservices.

## WORK EXPERIENCE

### Application Developer – DevOps | IBM India | Bengaluru, India

Jan 2021 – Jul 2022

- Developed and designed software for provisioning, configuring, and integrating resources and tools at a single click providing seamless environment setup triggering in less than **3 seconds**.
- Built and deployed docker containers to host and break up monolithic applications into microservices, improving management, software workflow, speed, and scalability.
- Actively implemented and maintained CI/CD pipelines using GitHub Actions and Jenkins to deploy **15** applications on Kubernetes services of clouds avoiding **80 %** of manual work.
- Deployed and administered Kubernetes-based RedHat OpenShift clusters by YAML to ensure cross-team collaboration for hosting their applications over a centrally commandeered system.
- Engineered traffic simulator that could make **5000** HTTP calls per second to different services of running applications to replicate production load for penetration testing by diverse parameters as inputs.
- Managed **35** plus GitHub repositories, and permissions, including branching and tagging.

### Infrastructure Specialist – DevSecOps (Observability) | IBM India | Hyderabad, India

Oct 2019 – Dec 2020

- Programmed virtual dispatchers which improved system availability by **23%** in observed time assuring adherence to SLA saving penalties for SLA breaches.
- Spearheaded a team of **7** engineers in developing dashboard software and REST APIs to integrate external applications.
- Improved a chat summarization bot by utilizing cloud-based NLP models to store important data from communication channels and moderate read time by **45%** by leveraging webhooks.
- Owned end-to-end observability setups for client environments through Instana, Turbonomics, and Datadog.
- Supervised team in embedding AI-based intelligent insights and self-contained blueprints for alerting module to monitoring software which saved **80-85%** percentage of configuration efforts.

## ACADEMIC PROJECTS

### Live Assistance and Tracking System - Crime Rate Reduction Solution (Python, Flask, SVC, MQTT, MySQL)

May 2019

- Developed a Multi-Tier software solution establishing unipolar GPS-based contact between victims requesting help and the closest available police resource within **45 seconds** of request providing less than **1%** error rate and received a **51,000 INR** prize from Pune Police.
- Devised a special algorithm reducing human efforts in contacting the nearest available police by **85%**, also tackling situational misuse due to human intervention increasing the **60-65 %** percentage of effectiveness of police.
- System suggests an optimized and efficient Police Force Deployment Model employing classification techniques based on the proneness of crime in areas analyzing trends in recorded crime datasets cutting the time to reach the site by **half**.

### Medical Dataset Augmentation via Generative Adversarial Networks (Python, Sci-kit, NumPy)

Sept 2018

- Engineered Progressive GAN implementation over Skin lesion image dataset augmenting training samples by **180%**.
- Sharpened corresponding accuracy of the classification algorithm avoiding **overfitting** by deploying synthetic amplification.
- Utilized Progressive GANs to resolve class imbalance & data insufficiency issues resulting in **two times** coverage of training records.

## ACTIVITIES

**Certifications** – Python PCAP 31-03 | IBM Data Science Professional | AZ900 Azure Fundamentals | AWS Cloud Practitioner | IBM Cloud Advocate

**Publication** – “Live Assistance and Tracking System,” IJCSSE “E-ISSN: 2347-2693 Vol.-7, Issue-1, Jan 2019.”

**Associations**- Founder President, technical club “Código-e-Madrid” | General Students Secretary, AISSMS COE | Member, IEI Chapter

**Awards**- “Super-Learner 2020” by IBM | Winner, Sparks Hackathon, SIT Lonavla | Winner, Paper Presentation, ET’19, AISSMSCOE

**Training** – Specialized curriculum in SAP Basis Admin, SAP Security by IBM LnK &S SAP Labs

**Extra-Curriculars** – Represented College at State Level Inter-Collegiate Cricket Championships

**Social Work** – Volunteer, National Service Scheme – SPPU | Volunteer, Rotaract Club Pune