# Rishabh Tiwari

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## Skills

**Languages:** Python, Java, JS, TypeScript, C#          **Databases:** SQLite, MongoDB
**Frameworks:** Angular, .NET, Flask, Django, TensorFlow   **Tools:** Git, Azure DevOps, Vercel

## Experience

**Full-Stack Application Developer,** IBM – Pune, Maharashtra                                  June 2022 – Present
- Engineered modules for a Java-based CRM platform, improving customer and asset workflows.
- Built Angular UI modules and REST microservices enabling lifecycle management for 2,000+ telecom assets.
- Implemented persona-based features using micro-frontend architecture to streamline deployment.
- Integrated AI-assisted development and automated testing, increasing unit test coverage to 80%.
- Refactored legacy modules to enhance performance, readability, and maintainability across teams.

**AI Engineer,** Collaborative Intelligence – Noida, UP                                  June 2021 – June 2022
- Engineered computer vision pipelines for high-resolution object detection, boosting accuracy by 15%.
- Integrated AI workflows into production pipelines, enhancing real-time analysis and prototype delivery.

**Software Test Engineer,** Conduent – Noida, UP                                  July 2020 – May 2021
- Designed 500+ test cases and validated SQL data integrity, reducing post-release defects by 15%.
- Accelerated sprint cycles by 25% by generating reproducible JIRA defect reports with full regression coverage.

## Projects

Selected peer-reviewed research and applied AI projects in computer vision, deep learning, and image analysis.

**Deep Learning Approach for Object Detection in Satellite Imagery**          Expert Systems (Wiley), April 2023
- Engineered a modified YOLOv4 architecture for small-object detection in high-resolution satellite imagery.
- Boosted detection speed and accuracy by integrating TensorFlow Object Detection API into a unified pipeline.

**Computer Vision and Deep Learning for Waste Management Systems**          IEEE ICACITE Conference, April 2022
- Designed deep learning model for automated waste classification, improving sorting accuracy and efficiency.
- Applied computer vision techniques to enhance municipal waste management workflows.

**Detection of Camouflaged Drones Using Computer Vision**          IEEE Confluence Conference, January 2022
- Built YOLO-based system for detecting camouflaged UAVs in complex backgrounds, enhancing accuracy.
- Addressed real-world security challenges in low-visibility environments using deep learning.

**Apple Fruit Disease Detection Using K-Means Clustering**                                  Springer, October 2021
- Developed a MATLAB-based tool for agricultural disease detection using neural networks.
- Achieved 5% accuracy gain over baseline through optimized clustering and classification techniques.

## Certifications and Achievements

Google Cloud Portfolio (2023) – Google Cloud
AZ-900: Microsoft Azure Fundamentals(2022) – Microsoft
Certified Tester Foundation Level (2022) - ISTQB

## Education

**Bachelor of Technology in Electronics and Communications** – NIT, Durgapur                                  2020