

Gautham Ashok

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Education

- **VIT Bhopal University, Madhya Pradesh**
B.Tech in Computer Science & Engineering – Gaming Technology
CGPA: 8.48 | Expected Graduation: May 2026

Technical Skills

- **Programming Languages:** Python, Java, C++, Kotlin
- **Web Development:** HTML, CSS, ReactJS
- **Game Development:** Unreal Engine, Unity
- **Data Science & AI:** MATLAB Simulink, Data Structures & Algorithms
- **Hardware & IoT:** Arduino, Android SDK

Projects

- **Anomaly Detection in CCTV Footage:**
Developed a real-time anomaly detection system using deep learning for surveillance video. Implemented a multi-threaded frame extraction pipeline and a CNN-LSTM hybrid model using TensorFlow and OpenCV to detect spatiotemporal anomalies such as theft and violence.
• **Result:** Achieved 92% F1-score at 20 FPS, improving accuracy by 15% over the YOLOv5 baseline.
- **AI-Powered Crop Disease Detection:**
Built a precision agriculture tool by integrating ML and IoT for automated crop health monitoring. Trained a ResNet50-DenseNet ensemble using PyTorch on the PlantVillage dataset and deployed it on an Arduino-powered RC car with a Flask backend.
• **Result:** Reduced disease misdiagnosis by 40% in pilot tests with local agricultural cooperatives.
- **Fruit Ninja Enhancement (Hand Tracking):**
Enhanced the classic Fruit Ninja game with real-time hand gesture tracking using MediaPipe and Python. Developed custom gesture recognition for swipes and grabs, and optimized latency to under 50ms using pose estimation algorithms.
• **Result:** Achieved 90% gesture detection accuracy during internal testing.

Certifications

- Coursera: Intro to AR/VR/MR/XR
- NPTEL: Foundations of Cyber-Physical Systems
- IBM: Generative AI using IBM Watsonx
- IBM: Cybersecurity Analyst

Academic and Extra Curricular Achievements:

- Conducted research on Information Theory and Machine Learning models, analyzing their applications and performance.
- Participated in several technical hackathons, demonstrating skills in rapid prototyping and collaboration.
- Led the organization of college-level events, showcasing leadership and time management.
- Regularly engage in fitness activities and prioritize health and well-being.

Languages

- English, Malayalam, Tamil, Hindi