

# Uma Maheswar Reddy Maram

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## PROFESSIONAL SUMMARY

Computer Science student with expertise in Python, machine learning, and data analysis. Experienced in developing innovative solutions through academic projects, including object detection algorithms and interactive dashboards using Tableau and Power BI. Seeking a summer internship to leverage my skills in solving real-world problems and delivering impactful solutions.

## EDUCATION

### Bachelor of Science in Computer Science and Engineering

The University of Toledo, Toledo, Ohio

Anticipated Graduation: May 2026

CGPA: 3.82/ 4.0

**Relevant Coursework:** Data Structures, Machine Learning, Statistics, Java Programming, Database Management Systems

## TECHNICAL SKILLS

- **Programming Languages:** Python, R, SQL and Java
- **Machine Learning:** PyTorch, NLP, Model Training
- **Data Analytics:** PowerQuery, Power BI, Tableau
- **Office Tools & Automation:** Power Automate, Microsoft Forms, Word, Excel, PowerPoint
- **Cloud Platforms:** AWS, Azure, Google Cloud (Basic Knowledge)

## PROJECTS

### Synthetic Music Generation Using Machine Learning

- Developed a deep learning model in TensorFlow with an LSTM architecture to generate piano music, trained on over 5,000 compositions.
- Improved note transitions and harmonies by incorporating sequence attention mechanisms.
- Expanding the project to support multi-instrument compositions using Transformer models and multi-track datasets.

### Real-time Hand Gesture Recognition Using TensorFlow and OpenCV

- Built a real-time hand gesture recognition system using MediaPipe, TensorFlow, and OpenCV
- Used MediaPipe to detect and track 21 hand keypoints and fed them into a pre-trained neural network to classify 10 hand gestures.
- Achieved a 95% accuracy rate on a custom dataset of hand gesture images and videos.
- Demonstrated the system's potential for various applications such as virtual reality control, sign language translation, and music creation.

### Parking Lot Ticket Management System Using Java and SQL

- Designed and built a scalable Java application for a parking lot ticket management system, reducing processing time by 20% compared to manual systems
- Collaborated effectively with the team to ensure the project's timely completion and successful implementation.

## WORK EXPERIENCE

### Research Intern

MulticoreWare Inc., India

September 2022 – June 2023

- Engineered an innovative object detection and segmentation algorithm using deep learning techniques.
- Trained a custom YOLO model on road images, achieving 89% accuracy in detecting vehicles, pedestrians, and traffic signs while maintaining optimal speed.
- Evaluated model performance using key metrics: mean average precision (mAP), intersection over union (IoU), and frames per second (FPS), comparing results with state-of-the-art benchmarks.
- Demonstrated real-time scalability by deploying the model on a Raspberry Pi with a webcam, processing 30 frames per second and detecting up to 10 objects per frame.

## AWARDS & ACHIEVEMENTS

- Co-Author, "FlowerBot: A Deep Learning Aided Robotic Process to Detect and Pluck Flowers," ICECA, 2022
- Awarded first prize in the Kalasalingam University's IoT Competition for Environment
- Best Technical Paper Presentation at IBM (April 2023)