Mahender Reddy Pokala
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EDUCATION

The University of Chicago **Chicago, IL**
Master of Science – Applied Data Science **Expected December 2025**
Coursework: Statistical modeling, Data Engineering, Generative AI, Natural Language Processing, Computer Vision, MLOps.

BML Munjal University **Gurgaon, India**
Bachelor of Technology – Computer Science and Engineering **October 2020**
Coursework Linear Algebra, Digital Image Processing, Machine Learning, Applied Numerical Techniques, Internet of Things.

SKILLS

Technical Skills: Machine Learning, Computer Vision, Deep Learning, NLP, LLMs, Statistical Modeling, Data Analysis.
Programming: Python, SQL, R, C++
ML/AI Tools: PyTorch, TensorFlow, OpenCV, Hugging Face, Scikit-Learn, Pandas, NumPy, spaCy, Seaborn, Matplotlib.
Cloud & DevOps: AWS, Docker, MLFlow, Kafka, MongoDB, Git.
Soft Skills: Technical Leadership, Cross-functional Collaboration, Project Management, Research Design, Stakeholder Communication

WORK EXPERIENCE

Phoenix AI – The University of Chicago **Chicago, IL**
Student AI Developer **January 2025 – Present**

- Designed and deployed a **custom Large Language Model (LLM)** leveraging Retrieval-Augmented Generation (RAG), achieving **30% faster response times** and **25% higher accuracy** for handling over **100,000 daily requests** from 15,000+ users.
- Developed an **automated model evaluation pipeline**, integrating real-time feedback and ensuring a **99% system uptime** with an efficient model-serving architecture.
- Authored detailed **model documentation** and **deployment guides**, reducing onboarding time for new team members by **50%** while setting industry-standard practices for model maintenance.

Center for the Economics of Human Development – The University of Chicago **Chicago, IL**
Research Assistant **December 2024 – Present**

- Built an **advanced computer vision pipeline** using YOLOv8 and Deep SORT, achieving **15 FPS real-time tracking** with a **92% accuracy rate** across multi-camera systems.
- Engineered a novel **3D reconstruction system** using Neural Radiance Fields (NeRF) and point cloud methods to process and analyze **11,000+ hours of video data** for behavioral studies.
- Designed a **multi-camera calibration and synchronization framework**, automating **pose estimation and action recognition**, significantly reducing data preprocessing time.

Autonomo Technologies **Bangalore, India**
Computer Vision Engineer **November 2021 – August 2024**

- Led the design and implementation of a state-of-the-art **computer vision system** with YOLOv7 and Deep SORT, delivering a **95% tracking accuracy** across 100+ cameras for inventory management.
- Created a **recommendation engine** leveraging collaborative filtering and deep learning, achieving **95% confidence levels** and reducing false positive rates by **30%**.
- Developed a scalable **model retraining pipeline**, minimizing model drift by **30%** while maintaining **real-time performance benchmarks**.

Scienaptic AI **Bangalore, India**
Machine Learning Engineer **November 2020 – October 2021**

- Engineered a **custom object detection model** with YOLOv5 to process **10,000+ financial documents** across 80+ formats, improving document parsing precision by **87%**.
- Integrated **AWS OCR solutions** to extract structured data from scanned documents, achieving **75% text extraction accuracy**, streamlining credit score analysis for financial institutions.
- Designed a **predictive credit risk model** with Decision Trees, delivering a **96% accuracy rate**, and automated **70% of KPI reporting** for credit union management, reducing manual effort.

Adventum Advanced Solutions **Bangalore, India**
Artificial Intelligence Engineer **January 2020 – October 2020**

- Developed a custom **ResNet classification model** to diagnose conditions like **Diabetic Retinopathy** with a **98% accuracy rate**, deployed seamlessly on AWS.
- Created a **real-time facial recognition system** utilizing the Openvino toolkit, achieving **96% accuracy** and deploying it with Intel Neural Compute Stick for smart surveillance.
- Built a **one-class classification model** using CNNs for analyzing Fundus images, achieving **95% accuracy** for early disease detection in clinical environments.

ACHIEVEMENTS

- Won the **Harvard Alumni Entrepreneurs** Accelerator **award** for Autonomo Technologies as **Startup of the Year 2021**.
- Led and organized **5+ AI hackathons** with **200+ participants** as Vice President of SATA Club, focusing on practical **ML applications** and mentoring junior developers.