Sanketh Karuturi

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PROFESSIONAL SUMMARY

Graduate Computer Science student with a minor in Artificial Intelligence at Oregon State University, specializing in Machine Learning, Deep Learning and Intelligent Agents. Proficient in designing and implementing AI-powered solutions for computer vision, natural language processing (NLP), and predictive analytics. Adept at training, optimizing, and deploying large-scale deep learning models using PyTorch, TensorFlow, and Scikit-learn. Strong foundation in mathematics, statistics, algorithms, and software engineering with hands-on experience in MLOps, cloud computing, and model interpretability. Looking for opportunities in AI/ML research, deep learning engineering, and AI-driven product development**.**

TECHNICAL SKILLS

Programming Languages:	Python, Java, C, C++, Golang, Rust, R, SQL, Node.js
Tools and Technologies:	TensorFlow, PyTorch, Keras, SpaCy, Kubernetes, Docker, Scikit-learn, OpenCV, NLTK, Flask, FastAPI
Certifications:	Machine Learning by Stanford University, Deep Learning Specialization by Andrew Ng, NVIDIA DLI Computer Vision Certificate, Machine Learning Engineering for Production (MLOps)

EDUCATION

Oregon State University, Corvallis, USA **Sept. 2022 - March 2025**
Master's in Computer Science ***GPA: 3.64/4.0***
Relevant Courses: Data Structures and Algorithms, Statistics, Machine Learning and Data Mining, Deep Learning, NLP, Computer-Vision, Artificial Intelligence, Big Ideas in AI, Database Management Systems, Computer Architecture, Parallel Programming.

WORK EXPERIENCE

UHDS Student Employee | Oregon State University, USA **Oct 2022 – Mar 2025**
- Optimized Inventory Forecasting: Developed a Python-based forecasting script to predict daily food and supply consumption using historical sales data, reducing food waste by approximately **15%** over one academic term.

AI/ML Apprentice Engineer | B E M L (Bharat Earth Movers Limited, Ministry of Defense), India **Dec 2020 – Dec 2021**
- Implemented a Predictive Maintenance Model for real time anomaly detection using TensorFlow and sensor data from heavy earth moving equipment, achieving **86%** accuracy in predicting component failure prior to breakdown.
- Developed a Customized Computer Vision Pipeline by leveraging **OpenCV** and **PyTorch** to design object detection models for defect identification in assembly lines, reducing manual inspection time by 40% and increasing defect detection rate by 30%.

Digital Marketing Manager | Spitel India Private Ltd, India **Jun 2020 – Dec 2020**
- Conducted an **NLP** Driven Marketing campaign which employed advanced sentiment analysis with **BERT**-based models to extract insights from social media chatter and customer feedback to target ads more effectively and maximized the ROI.

AI Intern | AEQUS Aerospace Private Limited, India **Jan 2020 – Apr 2020**
- Implemented Deep Learning for Quality Control by using **YOLO** and **Mask R-CNN** to detect surface defects on aerospace components, strengthening end-to-end manufacturing quality processes.

PROJECTS

Semantic Segmentation of Satellite Images using U-Net architecture with Hybrid CNN Models
- Built a custom U-Net architecture from scratch and then evaluated hybrid CNN backbones as U-Net encoders (**VGG16, VGG19, ResNet50, DenseNet121, InceptionV3** and **DeepLabV3+)** which resulted in 9% improvement in validation accuracy and mIoU.

Twitter Sentiment Analysis
- Analyzed the sentiment of 27,481 text entries and generated predictions for 3,000 test points.
- Performed text encoding, parsing, semantic analysis, discourse integration and pragmatic analysis

Text Readability Prediction Using Machine Learning
- Analyzed text embedding such as **—BOW, TF-IDF, Word2Vec, BERT, and RoBERTa—**to facilitate robust text analysis.
- Achieved a **mean absolute error** of 27 when forecasting readability metrics.

Airbnb House Price Prediction
- Engineered a predictive pipeline with **XGBoost** on 10,000+ Airbnb listings, incorporating geospatial, seasonal, and text-based features, yielding a **22%** increase in R^2 over baseline linear regression models.

Wheat Disease Detection Using CNNs and Transfer Learning
- Deployed networks like **VGG19, Xception, InceptionV3** and **ResNet152** to classify wheat diseases.
- Achieved an accuracy of 97% on cross-validation sets containing wheat imagery.

Medico Health Assistant Chatbot
- Engineered an NLP-based symptom triage system using Rasa for dialog management, **spaCy** for named entity recognition
- Fine-tuned **BERT** within TensorFlow for context-aware classification, achieving **90%** accuracy in real-time diagnosis suggestions.