CHAKRADHAR REDDY PEDDAVENKATAGARI

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EXPERIENCE

AI Engineer *Jan 2025 – Jun 2025*
Excl Solutions Pvt. Ltd., Bangalore, India (Remote)

- Developed and optimized production-grade machine learning pipelines for TEM image analysis and particle detection, improving model accuracy and overall processing performance by up to 80%.
- Designed and implemented an AI-powered internal chatbot to streamline access to project documentation and datasets, improving team productivity and information retrieval efficiency.
- Recognized by the CEO with a Letter of Recommendation for delivering high-impact AI solutions and demonstrating technical innovation.

PROJECTS

Car Sales Prediction using PySpark (Big Data ML Pipeline)

- Built an end-to-end big data ML pipeline using PySpark for large-scale data preprocessing, feature engineering, and predictive modeling.
- Implemented classification (Logistic Regression) and regression (Random Forest) models for price tier prediction and price estimation.
- Applied scalable preprocessing techniques including outlier detection, feature encoding, and normalization using Spark MLlib.

Biometric Authentication System – Encryption & Privacy

- Improved a biometric authentication system utilizing AES and RSA encryption, SHA-256 hashing, enhancing data security and integrity.
- Integrated blockchain-based validation to ensure the protection of sensitive user information from tampering.

Customer Churn Prediction using Machine Learning

- Developed an end-to-end machine learning pipeline to predict customer churn using feature engineering and supervised learning models.
- Applied data preprocessing, imbalance handling, and model evaluation techniques to improve prediction reliability.
- Performed comparative analysis of multiple models to identify optimal performance for business decision-making.

PUBLICATIONS

Neural Seq2Seq Modeling with Attention for Abstractive Text Summarization

- Designed a neural sequence-to-sequence model with attention for abstractive text summarization, improving contextual understanding and summary accuracy.
- View Paper: arxiv.org/abs/2404.08685

Efficient CAPTCHA Recognition using CNN-LSTM Networks

- Engineered a CAPTCHA recognition system using CNNs and LSTMs, achieving 99.54% accuracy while handling complex CAPTCHA images.
- View Paper: ijsrem.com

SKILLS

- **Programming:** Java, Python, SQL
- **AI & ML:** Machine Learning, Deep Learning, Computer Vision, NLP, LLMs, Generative AI, Transformers
- **AI Engineering:** Model Training, Fine-tuning, Hyperparameter Tuning, Data Preprocessing, Data Augmentation, Model Deployment, Inference Optimization, API Integration
- **Deep Learning Models:** CNNs, LSTMs, Transfer Learning, Model Evaluation
- **Frameworks:** PyTorch, TensorFlow, Keras, Scikit-learn, OpenCV, NumPy, Pandas
- **Cloud & Tools:** AWS, Git, GitHub, Jupyter, Google Colab, Docker

EDUCATION

Masters in Computer Science and Engineering (AI/ML Track) *Aug 2025 – Jun 2027*
University at Buffalo, Buffalo, USA — CGPA: 3.92 / 4

B.Tech in Computer Science with Specialization in Cloud Computing *Jun 2021 – May 2025*
SRM University, Chennai, India — CGPA: 9.64 / 10

ACCOMPLISHMENTS

- Awarded Performance-Based Scholarships totaling 122,500 for academic excellence across two consecutive years (2022–2024).
- Selected for the iCAN Summit Scholarship 2024 for international recognition; served as Treasurer of the iCAN Chennai Chapter.
- Achieved 5-star HackerRank ratings in Python, C, and C++, demonstrating strong problem-solving and programming proficiency.