Kausik Challapalli

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Objective

Aspiring Computer Science Engineer with a strong foundation in AI, Machine Learning, and programming, proficient in Python. Experienced in data science, including machine learning, deep learning, and statistical analysis. Seeking to contribute to innovative projects in the technology industry, focusing on AI-driven solutions. Eager to engage in cutting-edge research and development to drive technological advancements.

Education

Bachelor of Technology, Computer Science Engineering **June 2021 - May 2025**
SRM University, Amaravati *Amaravati, India*
School of Engineering and Sciences
Relevant coursework: Specialized in Artificial Intelligence and Machine Learning

Skills

Programming Languages	Python, C, C++, Java, JavaScript, HTML5, CSS3
Technical Foundations	Data Structures and Algorithms, Object-Oriented Programming, Operating Systems, Computer Networks, Linear Algebra, Calculus, Statistics, Probability Theory
Front-End Development	HTML, CSS, JavaScript, React.js
Back-End Development	Flask
Model Deployment Tools	Streamlit, Gradio, Flask
Machine Learning & AI	Scikit-Learn, TensorFlow, Keras, PyTorch, XGBoost, OpenCV, NLP, Transformers, Model Evaluation, Transfer Learning
Data Science & Analytics	Pandas, NumPy, Matplotlib, Seaborn, Plotly, EDA, Feature Engineering, Data Visualization, Power BI, Excel, MATLAB
Database	SQL, MongoDB, SQLite, MySQL
Development Tools	Jupyter Notebook, Google Colab, Git, GitHub, Visual Studio Code
Operating Systems	Windows, Linux, macOS
Soft Skills	Problem Solving, Communication, Research, Leadership

Research Papers & Conference Proceedings

- **Analyzing Lossless Image Compression Techniques for IoT Devices** [Link]
  → Research activities conducted as part of the Assistantship focused on Analyzing Lossless Image Compression Techniques for IoT Devices.
  → Presented at the Third IEEE International Conference on Electrical, Electronics, Information and Communication Technologies (ICEEICT 2024), July 2024.
- **Real Estate Price Prediction: Optimized Ridge and Lasso Regression Analysis**
  → Developed and evaluated sophisticated regression models for predicting real estate prices.
  → Accepted for publication and presentation at the 22nd OITS International Conference on Information Technology (OCIT-2024), December 2024.
- **Microplastic Detection in Drinking Water: A Comparative Analysis of CNN-SVM and CNN-RF Hybrid Models**
  → Conducted research on machine learning models for microplastic detection using CNN-SVM and

CNN-RF hybrid approaches.
→ Accepted for publication and presentation at the 22nd OITS International Conference on Information Technology (OCIT-2024), December 2024.

- **An Explainable AI-Driven Hybrid Model for Enhanced Intrusion Detection in Network Security**
  → Developed an Explainable AI-Driven Hybrid Intrusion Detection System with PCA, achieving 98.58% accuracy and 99.35% ROC-AUC, leveraging SHAP analysis for enhanced interpretability and providing cybersecurity professionals with actionable insights to combat advanced threats.
  → Accepted for presentation at the 2025 IEEE ICAECT conference (Jan 9-10, Bhilai, India), with proceedings to be submitted to IEEE Xplore.

- **Automated Detection and Visualization of Brain Tumors in MRI Using YOLOv11 and Pseudo-Color Mapping**
  → Developed an innovative approach for automated detection and visualization of brain tumors in MRI scans using YOLOv11 and pseudo-color mapping.
  → Accepted and presented as a poster at the 1st International Conference on Emerging Trends in Optical Technologies (ETOT-I).

- **Explainable AI-Driven Framework for Credit Card Fraud Detection**
  → Designed a cutting-edge Explainable AI framework for real-time credit card fraud detection, focusing on enhancing interpretability for cybersecurity professionals.
  → Accepted for presentation at the International Conference on Artificial Intelligence and Machine Learning for Sustainable Development (ICAMSD 2025), February 21-22, 2025.

Patent Applications

- **A Real-Time Anomaly Detection and Surveillance System and a Method Thereof**
  → Developed a system for real-time anomaly detection and surveillance, enhancing security through rapid threat identification and response.
  Patent Application No. 202441096202, 05.12.2024 (Published)

- **A System and Method for Real-Time Security Monitoring, Anomaly Detection, and Automated Response Integration**
  → Designed a comprehensive solution for real-time security monitoring with integrated anomaly detection and automated response.
  Patent Application No. 202441101477, 20.12.2024 (Under Examination)

Ongoing Research

- **AI for Tumour Detection**
  → Actively working on developing an AI model for tumour detection with for improved interpretability and transparency.

Certifications & Job Simulations

- **Career Essentials in Data Analysis by Microsoft and LinkedIn** [Link]
  Usage: Gained proficiency in creating data visualizations to effectively communicate analytical findings and support data-driven decisions.
  Skills: Data Visualization, Data-Driven Decision Making, Reporting, Presentation Skills, Microsoft Excel

- **Career Essentials in Generative AI by Microsoft and LinkedIn** [Link]
  Usage: Acquired knowledge in generative AI techniques and ethical considerations, applicable to developing advanced AI solutions.
  Skills: Generative AI, Artificial Intelligence, Computer Ethics, NLP, Deep Learning

- **21st Century Employability Skills Program - Advanced** [Link]
  Usage: Developed critical employability skills, including communication, problem-solving, and teamwork, essential for career advancement.
  Skills: Employability Skills, Communication, Teamwork, Critical Thinking, Time Management, Leadership
- **Accenture North America - Data Analytics and Visualization - Job Simulation** [Link]
  Usage: Applied data analytics and visualization techniques to real-world business problems, enhancing decision-making processes.
  Skills: Data Analytics, Data Visualization, Business Intelligence, Problem-Solving, Data Interpretation
- **British Airways - Data Science - Job Simulation** [Link]
  Usage: Utilized data science and machine learning techniques to analyze complex datasets and improve predictive models for business operations.
  Skills: Data Science, Machine Learning, Python, Predictive Modeling, Statistical Analysis, Data Preprocessing
- **Tata Group - Data Visualization: Empowering Business with Effective Insights - Job Simulation** [Link]
  Usage: Developed visualizations to translate complex data into actionable business insights, facilitating better strategic decisions.
  Skills: Data Visualization, Business Insights, Strategic Decision-Making, Dashboard Development

Languages

English: Full Professional Proficiency
Telugu: Native Proficiency
Hindi: Limited Working Proficiency