

Kausik Challapalli

 kknani24 |  Kausik Challapalli

OBJECTIVE

Aspiring Computer Science Engineer with a strong foundation in AI, Machine Learning, and programming, proficient in Python, Java, JavaScript, C/C++, and SQL. 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	:C,C++,Java,JavaScript,HTML5,CSS3,Python,R
Technical Foundations	:Data Structures and Algorithms, Object-Oriented Programming, Operating Systems, Computer Networks, Linear Algebra, Calculus, Statistics
Front-End Development	:HTML, CSS, JavaScript, React.js, Django
Back-End Development	:NodeJS, Flask
Database	:SQL, MongoDB, SQLite, MySQL
Machine Learning	:Pandas, NumPy, Scikit-Learn, TensorFlow, Keras, PyTorch
Operating Systems	:Windows, Linux, macOS
Development Tools	:Visual Studio, GitHub, Jupyter Notebook, Google Colab
Soft Skills	:Problem Solving, Communication, Research, Leadership
Data Science & Analytics	:Data Visualization, MATLAB, Power BI, Excel, NLP, Tableau, EDA
Design Tools	:Adobe After Effects, Adobe Lightroom, Adobe Lightroom Classic, Adobe Photoshop, Adobe Premiere Pro, Canva, Figma,Cap-Cut

RESEARCH PAPERS & CONFERENCE PROCEEDINGS

- Analyzing Lossless Image Compression Techniques for IoT Devices** **August 2023 - December 2023**
 - Research activities conducted as part of the internship 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 Forecasting Using Advanced Regression** **January 2024 - April 2024**
 - 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** **May 2024 - August 2024**
 - Conducted research on machine learning models for microplastic detection using CNN-SVM and CNN-RF hybrid approaches.

TECHNICAL PROJECTS

Sentiment Analysis for Mental Health Using NLP and Deep Learning

November 2023

- Engineered and optimized a deep learning-based sentiment analysis model with TensorFlow, achieving 89.6% accuracy on a large mental health-related dataset.
- Utilized advanced NLP techniques, including TF-IDF vectorization and Conv1D layers, resulting in high precision (up to 96%) and robust F1-scores (up to 0.95) across multiple classes, enhancing prediction reliability and scalability.

Movie Recommendation System Using Netflix Data

January 2023

- Developed a movie recommendation system using TF-IDF vectorization and cosine similarity to analyze Netflix data, resulting in personalized movie and TV show recommendations.
- Leveraged advanced feature engineering and content-based filtering techniques, and implemented sophisticated visualizations to uncover insights and trends, enhancing data-driven decision-making.

MRI Brain Tumor Detection Using YOLOv10

March 2024

- Developed an MRI brain tumor detection model using YOLOv10, achieving a precision of 94.6% and recall of 75.9% over 25 epochs, with mAP50 of 86.2%. Integrated the model into an interactive Gradio-based application, enabling real-time tumor detection from medical images, enhancing diagnostic accuracy and efficiency.

ONGOING RESEARCH

Satellite Image Segmentation Using Detectron2

Ongoing

- Currently developing a satellite image segmentation model using Detectron2, focusing on refining performance metrics such as accuracy and F1-score. Leveraging advanced algorithms and techniques to enhance precision and recall, with ongoing efforts to optimize training processes and improve model robustness.

ANOSYS: An Integrated System for Advanced Anomaly Detection in Network Traffic and Vehicle Detection Using Detectron2

Ongoing

- Working on developing ANOSYS, a comprehensive system that combines advanced anomaly detection in network traffic with vehicle detection using Detectron2. This system integrates deep learning techniques to enhance the identification of anomalies and vehicle classification in complex datasets, with continuous efforts to improve system accuracy and efficiency.

ONGOING TECHNICAL PROJECTS

Lossless Image Compression Techniques for IoT Devices and Security Systems through Image Analysis

Ongoing

- Developing techniques for lossless image compression to optimize storage and transmission in IoT devices and security systems by analyzing image characteristics.
- Leveraging natural image properties to ensure efficient compression without quality loss.

Power BI: Sales Insights Data Analysis

Ongoing

- Analyzing sales data from SQL databases to generate actionable insights and visualizations for business.
- Enhancing data storytelling and reporting to improve stakeholder communication.
- Applying advanced analytics techniques to identify trends and forecast sales perform strategies.

CERTIFICATIONS & JOB SIMULATIONS

- **Career Essentials in Data Analysis by Microsoft and LinkedIn**

Microsoft

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**

Microsoft

Usage: Acquired knowledge in generative AI techniques and ethical considerations, applicable to developing advanced AI solutions.
Skills: Generative AI, Artificial Intelligence, Computer Ethics, Natural Language Processing, Deep Learning
- **21st Century Employability Skills Program - Advanced**

APSSDC

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**

Forage

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**

Forage

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 Visualisation: Empowering Business with Effective with Effective Insights-Job Simulation**

Forage

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

INTERNATIONAL CONFERENCES & WORKSHOPS

- Third IEEE International Conference on Electrical, Electronics, Information and Communication Technologies (ICEEICT 2024)**

July 2024

→ Presented research on *Analyzing Lossless Image Compression Techniques for IoT Devices*, focusing on optimizing methods for IoT applications.
→ Gained valuable insights from interactions with experts, enhancing my understanding of current trends and challenges in the field.
- Sustainable Development Workshop**

March 2023

→ Acquired advanced competencies in Environmental Sustainability and Project Management.
→ Led collaborative initiatives to devise and implement strategies that effectively mitigate environmental impact.

LANGUAGES

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