Valluri Komal Krishna

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github.com/vallurikomalkrishna | https://vallurikomalkrishna.github.io/portfolio/

Education

Sheffield Hallam University — Sheffield, UK
Masters in Computing — *Jan. 2025 – Present*

Anurag University — Hyderabad, India
Bachelors Degree in Mechanical Engineering — *Oct. 2020 – May 2024*

Experience

FreeLance - Web Developer — June 2024 – Jan 2025
Anurag University — *Hyderabad, India*

- Designed, developed, and deployed scalable Web applications.
- Implemented key functionalities such as payment gateways, event registration forms, and database connectivity to streamline operations.
- Integrated APIs, optimized cloud infrastructure for performance and cost-efficiency.

Full Stack Web Developer — June. 2022 – Oct 2022
Skill Vertex — *Hyderabad, Telangana*

- Designed and built dynamic, responsive web applications using front-end technologies like HTML, CSS, JavaScript (React/Angular) and back-end frameworks like Node.js, Express, or Django
- Developed and integrated RESTful APIs, managed databases (SQL/NoSQL), and optimized data flow for seamless client-server interactions

Projects

Integrating Machine Learning in Thread Cutting operation | — Jan 2024 – June 2024

- Skills : Python, Meachine Learning Alogrithims, SQL
- To Develop a Robust Machine Learning Model on CNC Lathe Machine for thread cutting operation.
- To Integrate Real-Time Data with Machine Learning Sources
- To Optimize Precision in Lathe Thread Cutting Operation.
- To Demonstrate Practical Application and Integration with Machine Learning Model.

NLP- Speech Emotion Detection | *Python, Algorithms, AWS, ReactJS, Git* — July 2023 – August 2023

- Designed and implemented using NLP techniques to classify emotions from audio data based on features like tone, pitch, and speech patterns.
- Utilized advanced feature extraction methods (MFCCs, Chroma features, Mel Spectrogram) and optimized model performance through comparative analysis of CNN and LSTM architectures
- Applied the model to real-world scenarios, including customer service and mental health monitoring, while addressing ethical concerns related to data privacy and user consent.

Student Record | *HTML, CSS, React, Node.js, MySQL, JWT* — June 2024 – Jan 2025

- Developed Student Record, a centralized mobile application for students to access key academic information, including events, attendance, results, timetables, and fee dues.
- Designed an intuitive and responsive user interface to ensure smooth navigation, enhancing student engagement with real-time updates and notifications.
- Integrated secure backend systems to manage and synchronize student data efficiently, ensuring accurate and up-to-date information across all modules.

Technical Skills

Languages: Java, Python, C , Kotlin, SQL (Postgres), JavaScript, HTML/CSS
Frameworks: React, Node.js, Flask, WordPress, Material-UI, FastAPI
Developer Tools: Git, Google Cloud Platform, Microsoft Azure, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse
Libraries: pandas, NumPy, Matplotlib

Research Work

Predictive Maintenance on Lathe Machine Using Machine Learning | Jan 2024 – June 2024

- Mechanical Engineering Department – Anurag University
- Developed an Expert/Intelligent System (EIS) integrating machine learning models to monitor and predict lathe machine tool wear and failure
- Collected vibration, temperature, and acoustic data; applied algorithms such as Decision Trees and SVM for fault classification.
- Improved operational efficiency and reduced unplanned downtimes by enabling real-time decision-making.

Speech Emotion Detection using NLP and Machine Learning | July 2023 – August 2023

- Computer Science Departmen – Anurag University
- Developed a speech emotion recognition system using NLP and machine learning techniques.
- Extracted acoustic and linguistic features (MFCCs, pitch, tone, prosody) and applied models like SVM and CNN to classify emotional states.
- Trained and evaluated models on standard datasets (e.g., RAVDESS, CREMA-D), achieving high accuracy in detecting emotions such as anger, happiness, and sadness.
- Contributed to the development of more empathetic and responsive human-computer interaction systems.

Positions and Responsibilities

Technical Head TEDxANURAGU: Technical team lead for the TEDxANURAGU 2023, organized in our University (March 4th 2023)

Tech and Organizing Head at AUISC: Served as Technical and Organizing Lead in The IUCEE Student Chapter, where we organized various international Events and took Sustainable Initiatives to promote innovation among the students to envision a better world.

Executive Board Member of Daksha 2023: I have worked as an Executive Board Member of Daksha in Organizing the whole Techno fest in managing the Technical, Hospitality, and Discipline.