Bharath Kukka

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Carrier Objective

Passionate about AI & Robotics with experience in robotics, machine learning, and computer vision. Skilled in designing robotic manipulators and AI-based applications. Experienced with deep learning frameworks and MATLAB for robotics, looking to contribute in autonomous systems and intelligent automation.

Technical Skills

Languages: Java, Python, MATLAB, Embedded C, VHDL, HTML/CSS, JavaScript
Frameworks : TensorFlow, Keras API, Scikit-learn, OpenCV, Arduino
Developer Tools: Eclipse, PyCharm, MATLAB, VS Code, Arduino IDE
Version Control: Git, GitHub

Projects

Emotion Recognition System | TensorFlow, Keras API, Transfer Learning July2024 - Present

- Designed a CNN model for Human emotion classification from images for psychological therapy. The model attained **76% accuracy**, improved using **data augmentation** and hyperparameter tuning. Explored **transfer learning** to enhance performance and generalization for practical applications.

4Axis Manipulator | MATLAB, Embedded C, Inverse Kinematics, Python July2024 - Dec2024

- Designed a 4-axis pick-and-place manipulator and derived the manipulator's **kinematic equations** for precise motion control. Visualized the robot coordinate frames using MATLAB and designed a **GUI** application in Python to control the manipulator. And currently, I am upgrading this to a ***6-Axis Manipulator.***

Movie Recommendation System | Python, NLP, Scikit-learn Jan2024 - April2024

- Developed a content-based recommendation system with NLP and machine learning. Processed TMDB 5000 movie metadata with pandas, NLTK, and scikit-learn. Implemented recommendation using **cosine similarity** and support for dynamic insertion of movies.

Quadruped Robot | Python, Embedded C, Forward Kinematics,IK Jan2024-April2024

- Designed a quadruped robot and implemented kinematics. Applied Python for inverse kinematics (IK) to determine joint angles for accurate control. Acquired hands-on experience with robotics and programming.

Certificates & Achievements

- **Robotics & Control -** NPTEL Jan2024 - March2024
- **Certificate of Academic Excellence** – Dean's List June2023 - May2024

Education

Manav Rachna University June 2022 - May2026
Bachelor of Technology in Robotics & AI | CGPA: 8.68 Haryana , Faridabad
Sri Chaitanya Junior college of Arts & Science June 2020 - May 2022
Board of Intermediated Education | CGPA: 9.8 Telangana, Khammam