Snazal Singh

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EDUCATION

Central University Of Karnataka, *MCA in Programming Language and Machine Learning* | Karnataka, India
CGPA: 7.88 / 10
July 2023

Arcade Business College Patna, *BCA, Computer Science* | Bihar, India   CGPA: 7.6 / 10   June 2023

EXPERIENCE

Indian Institute of Technology Madras, *Intern (Machine Learning & Computer Vision)* | (Chennai, India) March 2023-June 2023
- Developed and implemented methodologies to ensure accurate tracking and analysis of movement patterns.
- Contributed to refining training strategies and optimizing athlete performance through data-driven insights.
- Performed comprehensive detection and tracking of boxers and referees within training videos of boxing matches.

Indian Institute of Technology Madras, *Project Associate* | (Chennai, India)   Aug 2023 - Present
- Developed analytics framework for tennis ball detection, ball tracking, and player movement analysis.
- Utilized advanced methodologies to calculate and visualize metrics such as ball trajectory and player positioning.
- Implemented techniques to assess the depth of the ball relative to the camera perspective, enhancing accuracy.
- Collaborated with colleagues to establish robust data collection and analysis protocols. Spearheaded the creation of a specialized Tennis dataset sourced from the IITM sports department tennis court.
- Incorporated a unit testing framework with automated test cases to validate the auto-evaluator model.
- Applied meticulous annotation and organization to ensure the dataset's efficacy for training and evaluation. Contributions to advanced sports analytics research, providing valuable insights for coaches, players, and sports scientists.

SKILLS

Languages: Python, C/C++, Java, Object Oriented Programming, Machine Learning, Deep Learning, Artificial Intelligence, Computer Vision, SQL, Software Engineering, Data Base Management System, Latex, Linux, TensorFlow, PyTorch, OpenCV, HTML, CSS, Javascript, Bootstrap

PROJECTS

Human Emotion Recognition | *MCA, 3RD SEM PROJECT*   Dec 2022 - April 2023
- Implemented a CNN architecture optimized for facial emotion recognition, consisting of convolutional, pooling, and fully connected layers
- The trained CNN achieved a validation accuracy of 70%, indicating its capability to classify human emotions from facial expressions accurately. Confusion matrix analysis revealed the model's proficiency in distinguishing between different emotion classes, with relatively balanced performance across all categories
- Precision, recall, and F1-score metrics further demonstrated the model's effectiveness in detecting specific emotions while minimizing false positives and negatives

Cow identification system based on iris analysis | *MCA, 2nd SEM PROJECT*   Oct 2022 - Dec 2022
- cow identification system based on iris analysis includes iris imaging, iris detection, and recognition
- Iris analysis and recognition are utilized on cow identification to enhance cow management in its traceability system

Gesture Volume Control using OpenCV | *PERSONAL PROJECT*   Oct 2022 - Dec 2022
- Used Gesture Control to change the volume of a computer.
- Used hand tracking hand landmarks to find gestures of our hand to change the volume
- For accessing volume control, pycaw is used, whereas pycaw is a Python library that provides an interface to control audio devices on Windows. It stands for "Python Core Audio Windows Library. With paw, we can programmatically manage audio playback, recording, volume control, and device selection on a Windows system

Achievement and Certificates
- Certificate for Completion of LibreOffice Suite Writer Training, C , JAVA(Spoken Tutorial) IIT BOMBAY
- Certificate of Internship in Data Science
- Certificate of Completion of Basic Deep Learning from NVIDIA