U K Samarth

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Education

KLE Technological University, Hubli 2021-2025
Bachelor of Electronics and Communication *Hubli, Karnataka*

- **CGPA:** 8.35 (until 6th sem)
- **Relevant Coursework:** Data Structures and Algorithms (C), 8051 Micro-controller, Arm7 Micro-controller, Machine Learning (Python), OOPs, Computer Communication Networks, Digital Signal Processing

Jawahar Navodaya Vidyalaya, North Canara 2014-2021
Secondary and Senior Secondary Education *Mundgod, Karnataka*

- X - 89.16%
- XII - 91.16%

Experience

Center of Excellence in Visual Intelligence(CEVI) Aug 2023 – Present
Project Trainee *Hubli, Karnataka*

- Worked on Multi-modal framework for Expression recognition.
- Contributed to the project Underwater Image Enhancement towards NeRF based 3D reconstruction.

Projects

Multimodal Facial Expression Recognition | *Python, Multimodal Machine Learning, Computer Vision*

- Developed a user interface to capture live audio and video streams in real-time to determine facial expressions.
- The developed system can act as customer feedback systems in shopping malls.

QR-based Ticket Booking System | *Next.js 14, MongoDB, Stripe, NextAuth v5, Raspberry PI-4B*

- Developed a secure QR-based ticket booking system with real-time QR code validation and turnstile access control using Raspberry PI-4B.
- Integrated payment processing with Stripe and user authentication with NextAuth v5.
- Implemented real-time QR code validation for ticket verification and access control.

Underwater Image Enhancement towards NeRF-based 3D Reconstruction | *Image Processing, NeRF, Python, Meshlab*

- This project focuses on enhancing underwater images and utilizing these enhanced images for NeRF-based 3D reconstruction.
- Underwater imaging presents challenges such as haze, color distortion, low contrast, and loss of visibility. By improving the quality of underwater images, we aim to achieve more accurate 3D reconstructions using NeRF (Neural Radiance Fields) technology.

A Deep Learning approach for Kannada handwritten character recognition | *Machine Learning, Python, TensorFlow, PyTorch*

- Utilized transfer learning techniques with pre-trained CNN models to improve recognition accuracy.
- Achieved an impressive accuracy of 97.50% in character recognition after training the CNN model for just 50 epochs.

Technical Skills

Languages: C , C++ , Python , Embedded C
Technologies: Git , GitHub , TensorFlow, PyTorch , OpenCV, Linux , LPC2148 , Matlab , NeRF , Meshlab
Concepts: Image Processing , OOPs, Machine Learning, Neural Networks, Deep Learning , Computer Networks , Computer Vision , Microcontroller 8051 , Arm7 Microcontroller , LPC2148 Microcontroller , Digital Signal Processing

Achievements & Certifications

- Presented research paper titled **A Deep Learning Approach for Kannada Handwritten Character Recognition** at the **5th INCET IEEE Conference**.
- Solved over **150+ problems** on **LeetCode** platform on **Data Structure and Algorithm**.
- Earned a **5 Star Gold Badge** for **Python** on **HackerRank**.