
# Amish B. Kulkarni

Bachelor of Engineering
Electronics And Communications
KLE Technological Institute, Hubli

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## Education

| Degree/Certificate | Institute/Board | CGPA/Percentage | Year |
|---|---|---|---|
| B.E., ECE | KLE Technological University, Hubli | 9.08 | 2022-2026 |
| Senior Secondary | BASE PU College, Hubli | 91 percent | 2020-2022 |
| Secondary | Dr.G.V. Joshi Rotary English Medium high School | 96.5 percent | 2020 grad |

## Projects

- **Pseudo CNC Bot: capable of writing a given string on a sheet of paper**
  *Tools: Arduino, Nema 17 Stepper Motors, Corresponding Motor Driver, Toy Servo motor, C++, Breadboard, Jumper Wires*[]
  - Developed a 3-axis CNC bot utilizing stepper motors controlled via Arduino to automate text writing on paper
  - Implemented motor control logic consisting of 1000+ lines of C++ to manage precise movements along X, Y and Z axes
  - Created a flowchart and function tree to map out system operations and ensure modular design
  - Applied circuit design principles to integrate components effectively, resulting in a functional prototype
- **Automatic Faucet System: Designed and developed an automatic faucet system to conserve water.**
  *Tools: ARM Cortex-M3 (LPC1768), Keil RTX RTOS, IR Sensor Module, SG90 Servo Motor, 16x2 LCD (4-bit mode), C/C++*[]
  - Designed an embedded system utilizing the LPC1768 microcontroller to automate water dispensing based on proximity detection.
  - Integrated an IR sensor module to detect hand presence, triggering the SG90 servo motor for faucet control.
  - Evaluated system performance using RTOS event-driven programming to ensure efficient task synchronization and resource management.
  - Collaborated with peers to develop the system architecture and implemented a 16x2 LCD interface for real-time status display.

## Skills

- **Programming Languages**: C/C++, Python, Embedded C
- **Technologies**: Arduino, Node.js, NVIDIA Jetson Orin,
- **Tools**: GitHub, Netlify, Keil uVision, VS Code, Cadence Virtuoso

## Publications

- **Guitar Chord Recognition: Using Convolutional Neural Network**, ICMISC 2025, Springer *April 2025*
  - Real-time guitar chord recognition using video input.
  - Utilized EfficientNet V2 model, a state-of-the-art deep learning architecture.
  - Combined computer vision and machine learning techniques.
  - Provides real-time chord recognition for music analysis and automated learning.

## Extra Curriculars

- **Lead Guitarist at Cultural Evening for Freshers**
- **Instrumental Judge and Organizer for Music Club Auditions**
- **Mentor and Performer at Elegance in Echoes**
- **Performer at IEEE Conference**
- **College Representative at IIM Bangalore's Unmaad**

## Positions of Responsibility

- **Instrumental Head,** Music Club, KLE Tech