



Devendra

Electrical Engineering

Indian Institute of Technology Bombay

LinkedIn | GitHub

Contact

koshledevendra@gmail.com

Mob:+917974929199

Examination	University	Institute	Year	CPI/%
Post Graduation	IIT Bombay	IIT Bombay	2021-23	7.4
Graduation	CSVТУ Bhilai	RIT-RAIPUR	2015-19	7.3

M.Tech Specialization- Control & Computing

B.E. Specialization- Electronics & Telecommunication Engineering

EXPERIENCE

- I am currently since Sep'2024 working as a **Project Engineer (Temporary) at the Aeronautical Development Agency, Ministry Of Defence, Bangalore**. I am unavailable for calls on weekdays from 9:00 AM to 5:00 PM. [Aug'23-Aug'24]
- Connected Digital System**
(Research Specialist | Division:Embedded | Department: Research and development)
 - GUI Front End Development**
 - Designing graphical user interfaces for embedded systems on **Linux environments**, utilizing tools **Qt Creator**.
 - Digital Function generator**
 - Designed and built a **digital function generator** capable of producing **Sine, Square, AM, FM, and Triangular waveforms** with precise **amplitude and frequency control** digitally using **MCP4131(Potentiometer IC) & 74HC4066(Switch IC)**.
- IIT Bombay** [Aug'21-June'23]
(Teaching Assistant | Department of Electrical Engineering, IIT Bombay)
 - Served as TA for **Control System** course, assisting UG students by conducting exams, vivas and quizzes.
 - Worked as TA for **Control system laboratory**, guided UGs in this course and Conducted and evaluated Vivas.
- Participated in training for one month in **Airports Authority of India(AAI)**.
- Participated for One month training on **Embedded System & PCB Designing** from IndEyes Infotech Pvt. Ltd.

MAJOR PROJECTS

- Study Of The Polytopes Structure** [June'22-June'23]
Guide: Prof. Harish Pillai [Dept. of Electrical Engineering (EE), IIT Bombay] M.Tech Project
 - Study/deduce structural information of polytopes defined by a **set of linear inequalities**.
 - Study how the polytope structure would be **perturbed**, when coefficients of defining linear inequalities are perturbed.
- Arduino Based Home Automation** [July'18-Dec'18]
Guide: Prof. Ritesh Diwan [Dept. of ETC, Raipur Institute of Technology, Raipur] B.Tech Project
 - Implemented and tested **IoT software-based smart home automation system** through the built model.
 - Studied various research paper related to Aurdino based home automation.

COURSE PROJECTS

- Balancing an inverted pendulum** [Control and Computational Laboratory] [July'21-Dec'21]
Instructor: Prof. Debraj Chakraborty [Dept. of EE, IIT Bombay]
 - Designed a **Linear Quadratic Regulator (LQR) controller** in Matlab to balance an inverted pendulum.
- Design of Pure Pursuit and Vector Field Histogram**, (Control and Computing Laboratory) [July'21-Dec'21]
Instructor: Prof. Debraj Chakraborty [Dept. of EE, IIT Bombay]
 - Implemented these algorithms from scratch using **Matlab and Simulink** & tested and verified on **ROS Robot**.
- Attitude estimation using various techniques** [Control and Computing Laboratory] [July'21-Dec'21]
Instructor: Prof. Debraj Chakraborty [Dept. of EE, IIT Bombay]
 - Designed **Complementary and Kalman filters** in **MATLAB** for estimation of **attitude**.
- DC motor position control** [Control System Laboratory] [Aug'22-Dec'22]
Instructor: Prof. Dwaipayan Mukherjee and Prof. Harish Pillai [Dept. of EE, IIT Bombay]
 - Implemented **position control** of a DC motor using position feedback and **PID** control in Arduino.
- Control of a line following robot: Spark-V** [Control System Laboratory] [Aug'22-Dec'22]
Instructor: Prof. Dwaipayan Mukherjee and Prof. Harish Pillai [Dept. of EE, IIT Bombay]
 - Implemented a **PID controller** in ATmega16 for aiding the traversal of a Spark-V robot along the given track.

TECHNICAL SKILLS

- Programming Languages:** Embedded C, C, Python, C++
- Communication Protocols:** CAN, SPI, I2C, TCP/IP, UART/USART, RS232
- Softwares/Tools:** Linux, OpenGL, freeRTOS, shell scripting, STM32CubeIDE, Arduino IDE, Proteus, Code Vision AVR, MATLAB, Qt Creator & designer, LaTeX, Google Colab, Git, Altium, ROS2
- Hardware Platforms:** STM32f103, STM32 blue pill board, ST-Link, ATmega16, L293D IC, Arduino UNO, XR2206