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Projects

32-Bit Multiply-Accumulate (MAC) Unit *(Major Project – VLSI Front-End Design – KVG College of Engineering)*
Currently Ongoing

- Designing a high-performance 32-bit MAC unit using Verilog HDL, focused on RTL design and simulation. Utilizes a Vedic multiplier for efficient multiplication and a Carry-Save Adder (CSA) for fast accumulation.
- Simulated and verified using Questa Simulator, with synthesis performed using Xilinx and Intel Quartus Prime. Entire project is focused on front-end design, targeting accurate functionality and performance optimization. Includes comparative analysis with other MAC unit designs to evaluate improvements in speed, resource utilization, and logic depth.
- Designed for applications in DSP, embedded systems, and AI-based computation.

Intravenous Fluid Monitoring and Controlling System *(Minor Project – IoT Based Medical Application)*

- We Developed a cost-effective IoT IV fluid monitoring and controlling system using load cell to estimate fluid levels based on weight. Designed a non-invasive control mechanism to regulate fluid flow by externally squeezing the tube, avoiding internal sensors or valves. Enabled real-time monitoring and emergency alert system using NodeMCU and Blynk IoT platform. Wrote custom code and calibrated hardware for reliable performance; supported remote and local control using a multifunctional button.

IoT-Based Relay Automation System *(Hobby Project – Home Automation)*

- Designed and developed a relay-based IoT circuit to control household AC/DC appliances such as fans and small motors. Integrated NodeMCU with RemoteXY mobile application for wireless control with a range of up to 50 meters. Successfully implemented and tested in real-world home environments, scalable to high-power devices like three-phase motors with upgraded relays.

Portfolio Website Design *(Hobby Project – Web development with AI)*

- Built a responsive portfolio website from scratch using HTML, CSS, and JavaScript with AI-driven prompt engineering for code generation.
- Leveraged Visual Studio Code for coding and deployed the website on GitHub Pages.
- Continuously update and improve the website to showcase my skills and project

Human Ear Simulation Model for Medical Training *(Collaborative Project – Sullia)*

- Designed and built a 4-feet working ear model to demonstrate the auditory pathway, developed for Ayurveda medical students. Simulated real ear functionality using a microphone to receive sound, vibration motors to mimic inner bone movement, and LEDs to represent neural signal transmission to the brain. Integrated a feedback system where brain response triggers buzzer output, with controlled timing and signal flow using custom-written code for Arduino uno. Developed the entire model with circuitry and mechanics, and successfully delivered it as a paid project to the client institution.

Hands-on Training Projects *(GTTC, Mangalore)*

- Participated in project-based training on Smart Dustbin System, Home Automation, and PLC-driven automation systems.

Experience

Intern – IoT and Automation
Government Tool Room and Training Centre (GTTC), Mangalore
- Completed 100+ hours of intensive hands-on training in IoT and automation technologies.
- Gained practical experience in designing and implementing IoT systems for industrial automation.
- Worked on smart device integration and real-time automation projects.

Intra-Internship Program
KVGCE Innovation and Incubation Cell, Sullia
- Participated in college-level innovation projects focused on automation and embedded systems.

Technical Service Assistant (Part-time)
Various Local Service Centers, Sullia
o Worked part-time alongside engineering studies at AC and refrigerator repair & service centers. Gained hands-on knowledge in installation, maintenance, and troubleshooting of cooling systems. Assisted in inverter and battery servicing, learning practical aspects of power backup systems. Also involved in general technical support, electrical repairs, and customer interaction tasks.

Education

Examination	University	Institute	Year	CGPA/%
B.E (E&C E)	VTU Belagavi	KVG College Of Engineering Sullia	2025	75.81
Diploma (EEE)	DTE Karnataka	KVG Polytechnic Sullia	2021	74.44
PUC	Karnataka PU Board	Govt. PU College Gandhinagar Sullia	2017	57.16
SSLC	Karnataka SSLC Board	Govt. High School Gandhinagar Sullia	2015	76.16

Technical Skills

- **IoT Development** : ThingWorx platform, Arduino, NodeMCU programming.
- **VLSI Design** : Knowledge of circuit design .
- **PLC Programming** : Basic knowledge of PLC operations and ladder diagrams.
- **Circuit Design** : Proficiency in digital and analog circuit design using tools like LTSpice, Multisim, and Basic MATLAB.
- **CAD Tools** : Basic knowledge in Solid Edge for 2D mechanical design.
- **Programming Languages** : Proficient in C, Python, Verilog HDL.
- **Software Tools** : Experience with Quartus prime lite, Questa simulator, Xilinx, MS Office, Canva, Ki CAD, SimulIDE and Schneider Electric PLC software.
- **AI Tools & Assistants:**
  - **AI Coding Assistants:** Cursor, DeepSeek, Blackbox
  - **General AI Assistants:** ChatGPT, Gemini, NotebookLM
  - **Productivity AI:** Microsoft Copilot

Positions of Responsibility

Institute Event Coordinator – IoT Club, KVGCE
- Responsible for planning and organizing technical events including workshops, seminars, and hands-on sessions focused on IoT and automation
- Facilitated peer learning activities and knowledge-sharing meetups among club members.
- Contributed to building a collaborative learning environment and increasing student engagement in IoT-based innovation.

Activities and Certifications

- **Certificate in IoT and Automation** (*GTTC Mangalore | October 27, 2023*)
  Completed 50 hours of training on IoT development using ThingWorx and 50 hours on PLC operations. Also completed a 4-hour course on communication skills.

- **VLSI Design Internship Training**
  Currently undergoing hands-on training focused on VLSI design using Quartus Prime and Questa Simulator.

- **Infosys Springboard Certifications**
  Completed certified courses in Arduino, Basics of Python, Introduction to Extensive Semiconductors, and Time Management

- **TCS iON Career Edge – Young Professional Course** (*September 6, 2024 – September 22, 2024*)
  Comprehensive course covering soft skills, interview preparation, and workplace communication.

- **Intra-Internship Program** (*KVGCE Innovation and Incubation Cell | October 11–20, 2022*)
  Gained experience in soft skills, MS Office, and design tools like Canva.

- **Solar Panel Installation Technician Course** (*Skill India & NSDC | December 25, 2023*)
  Successfully completed an online training program on solar panel installation and system setup.

- **Mini Project Exhibition – KVG College of Engineering**
  Participated in an intra-college mini project exhibition, presenting technical solutions developed during coursework.

Personal Details

- **Gender:** Male
- **Languages known:** Kannada, English, Basic Hindi, Tulu.
- **Hobbies:** Sports, Electronics DIY Projects, farming.