

Akshay Bavani

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SUMMARY

I'm an Electronics and Communication Engineering student passionate about integrating technology into real-world applications, especially in VLSI. My solid HDL foundation comes from self-learning on platforms like NPTEL, 1Stop platforms and guidance from professors. I've applied this knowledge in hands-on projects like UART and FSM using the 1stop platform, refining my skills in PCB design, microcontroller programming, and MATLAB data visualization. I've explored Hardware Modeling with Verilog through SWAYAM NPTEL, emphasizing my dedication to continuous learning. Two recent internships in Embedded Systems at Microcontroller Technology through AICTE and Emertxe have broadened my understanding and proficiency in practical applications in the field.

EDUCATION

2021 January – present Tirupathi, India	Bachelor of Technology, Sree Vidyanikethan Engineering College Secured a stellar CGPA of 8.87
2018 June – 2020 May Viayawada, India	higher secondary education, Sri Chaitanya Junior College Secured 956/1000 Marks in Board Examinations(BIEAP)
2017 June – 2018 May Alur, India	Matriculation, A. P. Model School Secured 9.8 CGPA in Board Examinations(BSEAP)

SKILLS

Verilog • Python Programming • MATLAB • Xilinx Vivado • Digital Circuit Design
MP LAB X IDE • C Programming Language (Basic)
Microcontroller ((Intel 8051, PIC18F452, PIC16F877A))

CERTIFICATES

PCB Design
Andhra Pradesh State Skill
Development
Corporation(APSSDC)

**Developing Soft Skills and
Personality**
NPTEL Online Certification

**Hardware Modeling Using
Verilog**
NPTEL Online Certification

Python(Basic) 
HackerRank

**MATLAB(Onramp, Image
Processing, Signal
Processing)**
Mathworks(Self-Paced
Online Courses)

VLSI 
1stop.ai

PROJECT

Addition Of Two Images Using Approximate Adders,

Team: C. H. Ragavendra Reddy, C. H. Venkata Srikanth Reddy, B. Akshay

- Reducing Power Consumption and Area.
- Converted image pixels to 8-bit and 16-bit Binary data and vice-versa.
- Using MATLAB for data conversion and data visualization using images.
- Xilinx VIVADO implementing Approximate Full Adder for Carry Generator.

INTERNSHIP

Embedded Developer Virtual Internship, AICTE Eduskills

The AICTE Eduskill Embedded Developer Virtual Internship is designed for aspiring embedded systems developers, covering crucial topics. Chapters like "8 Bit Microcontrollers: Architecture of the PIC16" and "Advanced Embedded C Tips" provide insights into microcontroller architecture and code efficiency. "C Programming Callbacks" explores event-driven programming, and "Linked List Data Structures" introduces key concepts. Participants gain proficiency in MPLAB® X IDE and explore C syntax in "Syntax And Structure of C - Simply C." The internship covers IoT project design, offering hands-on experiences like creating a sensor node for Azure IoT Central. Workshops like "Motor Control Workshop using dsPIC® Digital Signal Controllers" enhance the learning journey in embedded systems development.

Foundational Programming Skills in C & Micro-Controllers, SDLC Based Projects, Emertxe IT

The Emertxe virtual internship provided a robust foundation in embedded systems, focusing on the PIC16F877A microcontroller and embedded C programming. A highlight was the successful creation of a multifunctional Car Black Box, showcasing practical applications. The experience instilled competence and readiness for future projects, particularly in industries prioritizing efficiency and automation. The PIC16F877A's versatility in IoT, healthcare, automotive integration, and more positions it as a key player in shaping the future of embedded systems. However, implementing a car black box requires careful consideration of ethical dimensions, such as privacy concerns, legal adherence, and a commitment to safety and accountability in design and deployment.

VLSI, 1stop.ai

Under Apsis' guidance at 1stop.ai, I successfully completed projects showcasing my skills in UART Communication for single-character printing. These tasks involved creating intricate Finite State Machines (FSMs), including both Mealy and Moore Machines. I also implemented an Up-Down Counter, highlighting my diverse proficiency in digital design and communication protocols. Apsis' mentorship provided valuable insights, deepening my understanding of these complex concepts and their real-world applications. These projects strengthened my grasp of fundamental electronic principles and cultivated an appreciation for the nuanced intricacies of FSMs and counters. The hands-on experience with 1stop.ai's platform significantly enhanced my practical knowledge in digital electronics and communication systems. This guided exploration has given me a robust foundation to tackle more advanced challenges in embedded systems and digital design.

DECLARATION

I do hereby declare that all the details mentioned above are accurate to the best of my familiarity and confidence

Akshay Bavani
15 Jan 2024