VELICHARLA GOKUL KUMAR

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EDUCATION

- **Vignan's Foundation for Science Technology and Research**
  B.Tech in Electronics and Communication Engineering; CGPA: 9.52/10.0

  AP, India
  2019 – 2023

- **Sri Chaitanya jr. College**
  MPC; CGPA: 9.88/10.0

  AP, India
  2017 – 2019

- **Sri Chaitanya Techno School**
  SSC; GPA: 9.8/10.0

  AP, India
  2017

EXPERIENCE

- **5G Testbed R&D Lab, Indian Institute of Technology Hyderabad**
  RTL and SoC System Design Engineer

  TS, India
  July 2023 - present

  o Implemented basic 5G NR Physical Layer (L1) Baseband hardware modules for the Synchronization Signal Block (SSB) channel.

  o Moderate-level C code developing for L1 and L1 Controller interactions on the PS, ensuring smooth hand-off and alignment with hardware requirements.

  o Worked with AXI bridges and interconnects between PS and PL, specifically in Intel FPGA.

  o Gained basic understanding of custom clock configurations for ADC and DAC systems and for FPGA clocks in Xilinx Zynq RF SoC and TI AFE platforms.

  o Able to review and follow user guides for soft-core IP's and configure them effectively.

  o Basic understanding of fixed-point implementation and signal processing techniques.

  o Jenkins, Docker -*integrating Jenkins with docker container agents for build & Automated Testing.*

  o Quartus Prime Pro -*compiling flow for Intel Agilex F-series, I-series, Hitek Boards with flashing using JTAG, Active Serial Modes with GUI, CLI.*

  o Make, Tcl, Python, Shell -*scripting, python wrappers for the compiling flow of EDA tools*

- **Indian Institute of Technology Hyderabad**
  Future Wireless Communications Intern

  TS, India
  Aug 2022 - Jun 2023

  o Digital Design, High level synthesis - *design of basic communication modules using Vivado, Vitis, MatLab.*

  o Communications, Signal processing, Random variables -*basics.*

  o *Configuring FPGA, ARM using Termux -on Vaman board.*

  o *Matrix Analysis in python, Optimization -using cvxpy, gradient ascent & descent.*

  o *Digital Design -using platformio, Arduino, IDF frameworks in Assembly, Avr-gcc level on Arduino board.*

ACADEMIC PROJECTS

- **Elderly Fall Detection and Location Tracing System**:
  Guide: Dr.V.Vijaya Raghavan *Duration*: 4-Months

- **IoT Based Smart Governing System**:
  Guide: Dr.N.Usha Rani   *Duration*: 4-Months

VOLUNTEER EXPERIENCE

- IEEE Student Branch Secretary. *-6 Months*
- Class Representative *-6 Months*
- Student Coordinator *-3 Days*
  -CIRH International Conference.

CERTIFICATIONS

- Problem Solving Through Programming in C,
  NPTEL
- Programming, Data Structures and Algorithms Using
  Python, NPTEL
- Programming For Everybody (Getting Started with
  Python), Coursera
- Programming In Java,
  NPTEL
- Business English Certificate Vantage
  Overall score:159 CEFR Level: B1
- DevOps and Building Automation using
  Python, Coursera

AWARDS & HONORS

- **Merit Certificate**: Certificate of academic excellence (2020,2021)

EXTRA-CURRICULAR ACTIVITIES

- **Sports**: Volleyball, Badminton