Rohith Kambampati

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SUMMARY

Recent graduate in Electronics and Engineering with interest in Digital Signal Processing and RF engineering. Relevant coursework in advanced DSP algorithms and circuit design. Proficient in MATLAB/Simulink for DSP modeling and LTSpice for circuit design. Eager to apply theoretical knowledge and hands-on skills to innovate and optimize digital systems, contributing to cutting-edge projects in DSP algorithm development and FPGA implementation within a dynamic engineering team environment.

SKILLS

- Verilog and VHDL
- Xilinx Vivado
- C, C++ and embedded C
- LT Spice
- Embedded electronics and software design
- PCB design using KiCad
- Raspberry Pi
- RTL design
- AMBA protocols
- Communication protocols SPI, I2C
- Python
- MATLAB and Simulink
- Digital Signal Processing
- Git and Github
- AWS and Azure
- Angular
- Visual Studio Code
- MS Office

PROFESSIONAL EXPERIENCE

Graduate Teaching Assitant │ University of Glasgow — Jan'23 –Sept'23, Glasgow, UK
- As a teaching assistant, I have overseen undergraduate students in labs, tutorial classes and mentor different lab assignments
- Responsible for assisting students in digital electronics, LTSpice, MATLAB, Simulink and Python

Wiley Mthree │ Morgan Stanley — Oct'21 –July'22, Bangalore, India
Junior Support Associate | Angular developer
- Was Deployed as Angular Developer at Morgan Stanley
- Worked on code refactoring of an application used by the employees of Morgan Stanley across the globe
- Added new pivotal features to the angular application to enhance performance
- Performed testing to ensure the performance of the application

Wiley Mthree — Jul'21 – Oct'21, Bangalore, India
Software Developer Intern
- Trained in various technologies used in the industry of financial banking.
- Learned the way the financial markets work around the world
- Learned software engineering process improvements and best practices

LNMIIT — May'21 – Jul'21, Jaipur, India
LUSIP Intern
- Worked on LDPC codes for 5G-NR systems
- Was part of a research group which involved professionals from Ericsson India and professors from various universities and research institutes across India to test 5G-NR systems to evaluate 5G NR technologies

EDUCATION

University of Glasgow — 2022 – 2023, Glasgow, UK
Master of Science | Electronics and Electrical Engineering
Core courses: Digital Signal Processing, Real Time Embedded systems, Nanotechnology, Navigation Systems, Biosensors and Diagnostics, Power Electronics
Final Project: Heart disease risk prediction

Shiv Nadar University — 2017 – 2021, Greater Noida, India
Bachelor of Technology | Electronics and Communication Engineering
Relevant coursework: Signals and Systems, Digital Signal Processing, Graph Signal Processing, Digital Communication, Information theory and Coding, Embedded Systems, Analog Electronics

Final Project: Physical layer security for Cooperative systems: Relay selection using Graph Signal Processing

Projects

Comprehensive RF and Analog Circuit Designs

- Successfully implemented a wide range of advanced RF and analog circuit projects, including band-pass filters, PLLs, mixers, LNAs, oscillators, RF power amplifiers, active filters, impedance matching networks, phase shift networks, VCOs and Adaptive filters for noise reduction using LTSpice.
- Provided thorough documentation for each project, including design calculations, LTSpice schematics, simulation results, and performance analyses to ensure clarity and reproducibility.
- Created accessible, step-by-step guides for each project, making them available to others as a valuable educational resource for learning and mastering RF and analog circuit design techniques using LTSpice.
- Technologies and Skills used: LT Spice, RF circuit design, Analog circuit design, Digital Signal processing

RISC CPU design

- Designed and implemented a basic RISC CPU architecture using Verilog, demonstrating proficiency in digital logic design, hardware description languages, and simulation techniques
- The modular CPU architecture includes modules for Program Counter (PC), Instruction Memory, Register File, Arithmetic Logic Unit (ALU), Control Unit, and Data Memory.
- Implemented each CPU module in Verilog, ensuring adherence to RISC principles such as simplicity and uniformity of instruction format.
- Technologies and Skills used: Icarus Verilog, Xilinx vivado, Digital logic design

An evaluation of various Machine learning models for Speaker recognition

- Built a project to evaluate the performance of different machine learning models for speaker recognition
- Utilised my expertise in digital signal processing, machine learning to obtain feature vectures and built various machine learning models.
- Technologies used: MATLAB and Python

Track-n-Record

- Developed a real-time face tracking system on a Raspberry Pi 3B using OpenCV for facial detection and GPIO for controlling a pan-tilt servo mechanism, enhancing interactive applications.
- Implemented efficient image processing algorithms in C++ to detect and track facial movements, optimizing system performance for smooth and accurate tracking.
- Technologies used: Advanced C++, OpenCV, Raspberry pi 3B

Heart disease risk prediction using Machine learning

- Designed and implemented an end-to-end predictive system using Python, Angular, Java, and Spring Boot, leveraging machine learning algorithms to assess patient data and predict heart disease risk.
- Created a user-friendly, responsive web interface with Angular, enabling users to input health metrics and receive instant heart disease risk assessments through API interactions with the backend service
- Technologies used: Python, Angular, SpringBoot, Java

Professional Certifications

- AWS certified cloud practitioner
- Microsoft certified Azure fundamentals

EXTRA CURRICULAR ACTIVITIES & PERSONAL INTERESTS

Student Societies

CineU: Conducted various film critique events as the associate secretary and the advisor of this film critiquing society
Imprints: Screenwriter at the drama and film making society at Shiv Nadar University. Participated in the India Film Project (72 hours film making competition)

Music

Proficient with the piano, keyboards and produced music using m-audio keyboards, Scamp library in Python.