Dr. Vivek Jain

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16 J.Shivaji Nagar,

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Udaipur (Raj.)

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Current Employer
Techno India NJR Institute Of Technology, Udaipur (Raj.)

Last Employer

Geetanjali Institute of Technical Studies, Udaipur (Raj.)

Personal Data

Born on: - 27 February, 85

Marital status: - Single

Nationality: - Indian

Languages known: -
English
Hindi

Father: -
Late Mr. Prabhu Lal Jain

Mother: -
Late Mrs. Jamkhu Bai Jain

I desire…

1. A professional growth in Education world.
2. Contributing to the growth of organization.

Working Experience: 7 Year 9 Month

After Ph.D. :2 Year 9 Month

Before Ph.D. :5 Year

Professional Qualification

- ***Ph.D. at ECE, C.T.A.E., MPUAT, UDAIPUR, RAJASTHAN.***
- ***M.E.*** *(Digital communication 2011), aggregate* ***74%*** *at Technocrats Institute of Technology, RGPV, BHOPAL.*
- ***B.E.*** *(Electronics and communication discipline, session 2003 – 2007), aggregate* ***76%*** *at Geetanjali Institute of Technical Studies, Udaipur from Mohan Lal Sukhadia University, Udaipur (Rajasthan)*
- *XII (PCM) from RBSC with* ***76****% marks.*
- *X from RBSC with* ***72%*** *marks.*

Ph.D Problem Topic

Design & Development of Multichannel Sample Rate Convertor on FPGA.
TOOL:

- *MATLAB*
- *Xilinx ISE WEB*
- *Xilinx Plan Ahead*
- *Xilinx System Generator*
- *Vivado 2012.4*

M.E. THESIS

High Speed Reconfigurable Tras receiver Architecture for On-Chip Network (HRTAON)
TOOL :*XILINX 12.1 VERSION*

General Publication

- "**Smart Broom**", International Journal of Engineering and Advanced Technology(IJEAT) ISSN:2249-8958, Volume-9 Issue -3S , **Scopus Index** ,March ,2020. pp. 8-11.
- " **Smart optimized Reconfigurable Trans-Receiver System**" International Journal of Advanced Science and Technology Vol. 29, No. 3, **Scopus Index** ,**Q3**,2020, pp. 440-445.
- "**Design of Multichannel Sample Rate Convertor**", In Journal of Electrical Electronics Systems. Vol 5.ISSUE, 2016 ,pp.1-7.

International Conference

- **"High Speed Reconfiguration Transreceiver for on Chip Network**" in International conference on **Computational Intelligence and Communication Network,** organized by IEEE& MIR LABS ,Gwalior on 7th-9th octomber,2011**.**
- **"Design of 3.3 volt AN 8-BIT, 150 MHZ CMOS A/D Convertor"** in International conference organized by **IEEE &IETE** & Pornima College, Jaipur on 24th- 26th Feb 2011.
- **"Reconfigurable Multichannel down convertor for on chip network in MRI "** in Annual Convention organized by CSI 2013, Publication in **Springer AISC Series** Vishakhapatnam on 13th-15th December 2013.
- "**Development of Low Power Multi Channel Interpolator for System on Chip in 4G Application "**Publication in Microwaves, Radar and Remote Sensing Symposium (MRRS), 2014 E23-25 Sept. 2014.
- **"Implement Multichannel Fractional sample Rate Convertor using Genetic Algorithm"** International Conference on Computer & Management.7, at RTU Kota on 28th -29th December 2016.

National Conference

- "**Multimode Elevator Controller Implementation on FPGA Board**" in National Conference on Advance Communication Technologies and Application (NCACA-2011), organized by IEEE society and GITS, Udaipur on13th – 14th May 2009.
- "**Video and Image Processing Design Using Pipelined Reconfigurable Adaptive FIR Filters For on chip network"** in national workshop organized by MNIT, Jaipur, February 4, 2013.
- **"Development of Low Power Decimator for System on Chip in GSM**" in National conference on Recent Advances in Wireless Communication & Artificial Intelligence**,** organized by **College of Technology & Engineering**, MPUAT ,Udaipur on 14th-15th March 13, 2014.

Achievement

Best faculty award of Techno India NJR Institute of Technology is given by Hindustan Zinc Limited & Danik Bhaskar.

Funding From Government of Rajasthan and Central Government for Project

1 .Source: Department of Science & Technology Jaipur, Government of Rajasthan

Project Title: Design of 256 channels Sample Rate Converter for Accelerated 3T- MRI: Shifting the paradigm in Health Sector

Role: Co- Investigator **Fund Sanctioned: Rs 6.78 Lake**

Objective:

a) To design & developed 256-channels Fractional Sample rate converter for medical imaging applications of MRI.
b) To optimize the developed sample rate converter for highly oversampled echo signal from real time MRI.

2. Source: Department of Science & Technology, Jaipur, Government of Rajasthan
Project Title: Video Processing based automation for saving renewable energy (Electricity)
Objective: To save power consumption using image processing.
Role: Guide **Fund Sanctioned:** Rs. 15000

3. Source: Department of Science & Technology Government of Rajasthan
Project Title: DSP Processor Based High Precision Image Capturing System
Objective: To remove the additive white Gaussian Noise from the real time captured image.
Role: Student **Fund Sanctioned:** Rs. 13500

Professional Training Certifications

- Hands on **DSP Processor DSK6713 & 6416** at M.S. RAMAIAH, BANGLOR
- ARM University Program Course on Embedded System and **Internet of things** Using FRDM KL25 Z and Thing Speak Cloud.
- Certified by NVIDIA deep Learning Institute for completion of Course of Fundamentals of **Deep Learning** for computer vision.
- Certified by Skyfi Labs, Roboversity for **Animatronic Hand**.

National Programme on Technology Enhanced Learning (NPTEL) Certifications

- Certified by NPTL Online for **Principle of Modern CDMA/MIMO/OFDM Wireless Communication.**
- Certified by NPTL Online for **Microprocessor and Microcontroller**

EDX Online Courses Certifications

- IoT System Design: Software and Hardware Integration
- Introduction to Watson AI
- I4.0x: Industry 4.0: How to Revolutionize your Business
- Big Data Strategies to Transform Your Business

Math Works Training Certifications

- Certified by Mathworks, Training Services for **Deep Learning Onramp** self –spaced training course.
- Certified by Mathworks, Training Services for **MATLAB Onramp** self –spaced training course.
- Certified by Mathworks, Training Services for **Machine Learning Onramp** self spaced training course

Coursera Online Courses Certifications

- Architecting Smart IoT Devices.
- Cloud Computing Basics (Cloud 101)
- Machine Learning Classification
- Developing AI Application on Azure
- Industrial IoT Markets and Security
- Embedded Software and Hardware Architecture
- Machine Learning Pipelines with Azure ML Studio
- Project Planning and Machine Learning
- Developing Industrial Internet of Things
- Modeling and Debugging Embedded Systems

- Roadmap to Success in Digital Manufacturing & Design
- Introduction and Programming with IoT Boards
- Software Architecture for the Internet of Things
- FPGA computing systems: Background knowledge and introductory materials
- Image Compression with K-Means Clustering
- Image Classification with CNNs using Keras
- Control of Mobile Robots
- Introduction to Python
- Simple Recurrent Neural Network with Keras
- COVID-19 Contact Tracing

Major Technical Skills

1. Technical Software skills

a) **Xilinx 14.1 full version Tool BOX**
   - XILINX 14,1 ISE DESIGN SUITE
   - XILINX SYSTEM GENRATOR 14.1
   - XILINX PLAN AHEAD 14.1

b) **MATLAB 2012 A TOOL BOX**
   - SIMULINK (XILINX BLOCKSET)
   - HDL CODER
   - MATLAB PROGRAMING

c) **Microwind 3.0 –**Layout &Simulation

d) **Modelsim** (VERILOG HDL & VHDL Simulator)

e) **SPJ System SC51** (Compiler)

2. Hardware Board

- FPGA/CPLD kits from Ni2 logic (Include 5000 and 200000 Gates)
- DSK 6713 and 6416 DSP Processor
- FRDM KL25Z & 8051 Microcontroller
- RASPBERRY PI 3

Technical Languages

- C, Embedded C language.
- Assembly language of 8085, 8086 and 8051 microprocessor.
- Hardware Description language VHDL,Verilog.

Training Conducted

Basic IOT Tanning

- Interfacing of ADC and reading the value of analog sensors.
- Serial Port Programming & Serial communication with CPU.
- Introduction to touch sensor, its interfacing & programming.
- Surface Level Indication Using Accelerometer
- Data Acquisition System using Serial PC Interface
- Gesture controlled USB Mouse using Accelerometer
- Implement NRF transmitter and receiver
- Upload analog sensor data on Thing Speak Cloud
- Design dash board on Node Red

8051 & ARM 7 Microcontroller Programming & Interfacing.

- Interfacing LCD with the microcontroller.
- Interfacing keyboard with the microcontroller.
- Interfacing steeper motor with microcontroller.
- Interfacing DC motor with microcontroller.
- Relay driving circuit-using microcontroller.
- Programming for driving the Elevator using microcontroller.
- Generation of square wave of any frequency and duty cycle using microcontroller.
- Development of 8051 Board.

Robotics Workshop

- Development of Robotic path finder

Academia Experience

Theoretical & Practical Knowledge of Subjects & Labs

- DSP Theory & Lab.
- Signal & System Theory & Lab.
- Embedded System Theory & Lab.
- Analog & Digital Communication Theory & Lab.
- Control System Theory
- VLSI Design Theory & Lab.
- VHDL Theories & Lab.
- MP 8085, 8086 Theory & Lab.
- LIC Theory & Lab.
- DE Theory & Lab.
- Robotics Theory & Lab
- Information Theory & Coding
- DIP Theory & Lab
- IOT Theory & Lab

M.E. Project

UART HD 6402

Introduction

This project helpful in serially data transmission and reception in asynchronous mode .This is physically implemented on FPGA board. Also reduce the power and resource Utilization with help of Xlinix PLAN AHEAD 14.1.

Practical Application

This product will help in where data stored in parallel but transmitted in serially for example data transmission between two Personal computers with low power consumption.

B.E Projects

1. **MICROCONTROLLER 8051 Application In Automobile**

Introduction

This product is useful in that situation where air condition monitoring is needed.

Practical Application

This product will monitor in real time. Hence the unwanted and misuse of AC can be detected

2. **ON- OFF CONTROLLER USING ARM CONTROLLER**

Introduction

This product is useful in that situation where temperature controller is needed.

Practical Application

This product is helpful for on or off the heater, automatic press, and automatic oven etc According to the temperature

3. TRAFFIC LIGHT CONTROLLER

Introduction

Traffic light controller based on 8085 microprocessor using 8255 as a peripheral interfacing device.

Practical Application

This project is helpful in managing the traffic. It is programmable logic device; hence provide flexibility in changing ON and OFF time different type of light (Red, Green, and Yellow)

4. FREQUENCY METER

Introduction

This project based on 8085 microprocessor using 8255 as a peripheral interfacing device and 8254 programming timer& counter

Practical Application

This project is helpful in measure the time interval between two consecutive events.

Reference

1. **Dr. Prasun Chakrabarti**
   IET Fellow, Executive Dean-Research and International Linkage and Institute Distinguished Senior Chair, Professor, CSE, Techno India NJR Institute of Technology. Udaipur
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   Professor & Head ,ECE
   C.T.A.E. MPUAT, Udaipur
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3. **Dr. Navneet Agrawal**
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Declaration

I hereby declare that the above information mentioned by me is correct to the best of my knowledge and belief.

Place: UDAIPUR **Yours Sincerely**

Date: 18-6-2020 ***(Vivek Jain)***