Ananth Charan Ravinutala

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Academic Details

Year	Degree	Institute	CGPA/Marks(%)
2021	M.Tech Micro-Electronics & VLSI(TA)	Indian Institute of Technology Hyderabad	9.43
2019	B.Tech - Major in ECE and Minor in Economics	Shiv Nadar University	8.95
2015	XII (Andhra Pradesh Board of Intermediate Education)	Narayana Junior College	98%
2013	X (Andhra Pradesh Board of Secondary Education)	Sri Venkateswara Children's High School	9.8

Projects

Run time power optimization (Thesis): [July 2020 - Present]
- Currently exploring different variants of Q-learning algorithm to improve the performance and the run time power consumption of multi core processor by efficiently guiding Dynamic Voltage Frequency Scaling (DVFS) and Dynamic Core Selection (DCS) and allocating workloads.
- Planning to take this concept of optimal Q-learning to SoC level for Automobile and customized Reconfigurable Machine Learning Architecture Fabric applications under the guidance of Prof. Amit Acharyya.

CORDIC based design for square root and division computation: [Jan 2020 - May 2020]
- Hardware modeling and verification of a low complex 32-bit Square Rooter and Divider using a Two-Dimensional 16 stage Circular CORDIC (COordinate Rotation DIgital Computer) with Pipelining and Distributed Arithmetic as building blocks under the guidance of Prof. Amit Acharyya.

Design and Verification of a simple 4-bit ALU: [Aug 2019 - Dec 2019]
- Full System Level Design (from circuit to layout) of a simple 4-bit Arithmetic and Logic Unit on TSMC 180nm technology node with power gating for low power consumption under the guidance of Prof. Naresh Kumar Emani.

Design of a simple Image Processor with a serial port: [Aug 2019 - Dec 2019]
- Hardware modelling and verification of a simple Image Processor (which can do weighted addition for 32-bit pixels) with a UART interface at input and output ports under the guidance of Prof. Shishir Kumar.

Real-time Control of Home Appliances: [Jan 2018 - May 2018]
- Prototype of Smart Air Cooler which is capable of altering its speed of water flow and fan based on humidity and temperature of surrounding is developed with the help of STM32 series microcontroller, DHT11 sensor, GSM900A module and Power electronic circuitry under the guidance of Prof. R.N. Biswas.

Implementation of data processing techniques for MST RADAR: [Jan 2019 - May 2019]
- Accurate estimation of doppler wind profile using various data processing techniques and noise level estimation algorithms with special emphasis on a novel method of doppler profile tracing using MPCF (Multi Parameter Cost Function) under the guidance of Dr. T.V.C. Sarma and Prof. Atul Vir Singh.

Reliability and Variability Analysis of Differential Amplifier: [Aug 2018 - Dec 2018]
- Design and Verification of an Aging Aware Differential Amplifier on GPDK 180nm technology node. Various topologies of current mirrors are explored in terms of reliability (NBTI and PBTI) and their impact on Different Amplifiers is understood under the guidance of Prof. Sonal Singhal.

Voltage Level Shifters for Dual Supply Applications: [Jan 2018 - May 2018]
- Design and Verification of conventional level shifters on GPDK 180nm technology node under the guidance of Prof. Sonal Singhal.

Analysis of Prostate Cancer Dataset: [Jan 2018 - May 2018]
- Dataset is Analyzed using various regression techniques like linear, ridge, lasso, and elastic net under the guidance of Prof. Madan Gopal.

Positions of Responsibility

- Working as Team Lead for Coco in Swadeshi Microprocessor Challenge. [Aug 2020 – Present]
- Working as Placement Coordinator at IIT Hyderabad. [Aug 2020 – Present]
- Teaching Assistant in Embedded Systems Laboratory under the guidance of Prof. R.N. Biswas. [Aug 2018 – Dec 2018]
- LASC Tutor for “EED-102: Semiconductor Devices” under the guidance of Prof. Nilesh Goel. [Feb 2017 – May 2017]
- General Secretary for SNU IEEE student branch. [Jan 2017 – Dec 2017]
- Core Committee Member of SNU ACM student branch. [Jan 2017 – Dec 2017]
- Creative Writing Head for 2k15 Convocation of SNU.

Achievements

- Funded for OUR by SNU to work on “Smart Charging technologies” under Dr. Atul Vir Singh. [Jan 2017 – Dec 2017]
- INSPIRE Scholarship from Ministry of Science and Technology, Government of India. [2015]
- Certificate of Scholarship from TTD. [2015]

Technical Strengths

- **Icarus Verilog, ISE Xilinx** - Hardware Modelling
- **Cadence Virtuoso** - Circuit design and Layout
- **Mentor Graphics** - Circuit design
- **LTspice** - Circuit simulation
- **Scripting languages** - Verilog, MATLAB, C and Spice
- **IC Characterization**

Relevant Courses

- Digital IC Design
- Analog IC Design
- Radio Frequency IC Design
- Mixed Signal IC Design
- Mesoscopic Device Electronics

Hobbies

- Teaching
- Storytelling
- Cricket, Table Tennis and Badminton as a part of recreation

References

- **Dr. Amit Acharyya**,
Associate Professor of Electrical Engineering Department,
IIT Hyderabad.
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- **Dr. Kaushik Nayak**,
Assistant Professor of Electrical Engineering Department,
IIT Hyderabad.
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- **Dr. Gajendranath Choudhary**,
Assistant Professor of Electrical Engineering Department,
IIT Hyderabad.
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- **Dr. Ranendra Narayan Biswas**,
Retired Professor of Electrical Engineering Department,
IIT Kanpur.
Visiting Faculty of Electrical Engineering Department,
Shiv Nadar University.
Email: ranendra.biswas@snu.edu.in

- **Dr. T.V.C. Sarma**,
Scientist – SG of Advanced Technology Laboratory,
National Atmospheric Research Laboratory (NARL), Gadanki.
Email: tvcsarma@narl.gov.in

- **Dr. Atul Vir Singh**,
Assistant Professor of Electrical Engineering Department,
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