# Kailash Prasad

*PhD Scholar*

## Research Interest

Design of In Memory Computing Architectures for Caches and DRAM.

Design of Circuit and Architectures for Approximate Computing.

CAD Tool Design for VLSI Circuits and Architectures.

## Education

2018-Present **PhD, Electrical Engineering**, IIT Gandhinagar, GPA:9.06/10.

2014-2018 **BTech, Electronics and Communication Engineering**, NIT Arunachal Pradesh, GPA: 9.54/10.

2013-2014 **Class 12th, AISSCE**, Kendriya Vidyalaya Tenga Valley, Marks: 91%.

2011-2012 **Class 10th, AISSE**, Kendriya Vidyalaya Tenga Valley, GPA: 10/10.

## Experience

Aug 2018-Present **Teaching Assistant**, IIT Gandhinagar.
Courses: Digital System, Embedded System, Microelectronics Lab, Computer Organisation and Architecture, VLSI Design, IC Design Lab
Instructor: Dr. Joycee Mekie, Assistant Professor, IIT Gandhinagar

Oct 2020-Present **Teaching Assistant**, LDCE College.
Courses: VLSI Lab, C - Programming
Instructor: Kirit Patel, Kamlesh Gavit, Assistant Professor,LDCE

## Publications

### Published

**K. Prasad***, C.K. Jha*, V. Srivastava, and J. Mekie, "FPAD: a Multistage Approximation Methodology for Designing Floating Point Approximate Dividers," 2020 IEEE International Symposium on Circuits and Systems, Seville, Spain..

C.K. Jha, **K. Prasad**, A. Tomar, and J. Mekie, "SEDAAF: FPGA Based Single Exact Dual Approximate Adders for Approximate Processors," 2020 IEEE International Symposium on Circuits and Systems, Seville, Spain..

**K. Prasad**, A.Biswas, and J. Mekie, "Analysis of Word Line Shaping Techniques for In-Memory Computing in SRAMs" (28th IEEE International Conference on Electronics Circuits and Systems, Dubai) .

### Submitted or Under Preparation

**K. Prasad***, C.K. Jha*, V. Srivastava, and J. Mekie, "VosTrOF: A Unified Framework for Design Space Exploration of Approximate Circuits" (Manuscript Under Preparation) .

**K. Prasad**, N.Puri, and J. Mekie, "High Performance and Robust 6T SRAM based In-Memory Computing Architecture" (Manuscript Under Preparation) .

**K. Prasad**, R.Borkar, and J. Mekie, "High Performance In-Memory Computing in Embedded DRAM" (Manuscript Under Preparation) .

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A.Parmar, **K. Prasad**, N.Rao, and J. Mekie, "FastMem: A Fast Architecture-aware Memory Layout Design"(Submitted to ISQED 2021) .

A.Parmar, **K. Prasad**, N.Rao, and J. Mekie, "An Automated Approach to Compare Bit Serial and Bit Parallel In-Memory Computing for DNNs"(Submitted to ISCAS 2021) .

* Equal Contribution as Primary Author.

## Technical Skills

EDA Tools Xilinx Vivado, Design Compiler, VCS, Liberate, Innovus, MATLAB, Cadence Virtuoso, Calibre, Keil uVision, Custom Compiler, ModelSim, Sentaurus TCAD.

Programming Python, Verilog, C, TCL, Bash, HTML/CSS.

Microcontroler Raspberry Pi 3, ARM7, Arduino, AVR, ARM Cortex M0, 8085.

## Relevant Coursework

VLSI Design, Physics of Transistors, Computer Architecture, Machine Learning, MicroFabrication, Computer Networking, Microelectronics Lab, IC Design Lab, Analog IC Design, Mathematical Foundation for Computer Vision.

## Fellowships and Grants

Nov 2021 **DAC Young Fellow**, *DAC 2021*.

Oct 2020 **Prime Minister's Research Fellowship**, *MoE*.

Aug 2020 **Intel India Research Fellowship**, *Intel India*.

Jan 2020 **VLSID Full Fellowship**, *VLSID 2020*.

Jun 2019 **Undergraduate Mentoring Workshop Fellowship**, *ISCA 2019*.

Aug 2018 **Start Early PhD Fellowship**, *IIT Gandhinagar*.

2014-2018 **Merit Cum Means Scholarship**, *NIT Arunachal Pradesh*.

## Awards

Dec 2018 **Chairman Gold Medal**, *NIT Arunachal Pradesh*.

Dec 2018 **Institute Gold Medal**, *NIT Arunachal Pradesh*.

Nov 2017 **Winner Addovedi Robowar**, *NIT Arunachal Pradesh*.

Aug 2015 **Student of the Year**, *NIT Arunachal Pradesh*.

Mar 2014 **Chief Minister's Talent Award**, *Govt. of Arunachal Pradesh*.

## Extra Curricular

Apr 2020 **Online Python Video Tutorial Series**, Indian Institute of Technology, Gandhinagar.

Oct 2017 **Organized Technoyuva**, *A District Level Competition*, NIT Arunachal Pradesh.

Oct 2017 **Web Developer**, *Atulyam 2017, Annual Cultural Festival*, NIT Arunachal Pradesh.

## Service

2019-Present **Lab/System administrator**, *nanoDC lab, IIT Gandhinagar*.