



Arun Govindankutty

Researcher · Student · Engineer · Educator

Impeccable work ethics and professionalism.

Eye for detail - Proactive - Quick to assimilate new and upcoming technology.

Competent - Cross domain knowledge and experience.

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🌐 /arun-govindankutty

GOALS



I am looking for opportunities to experiment and test what I have learned, and hoping to learn more and apply more.



A subject-agnostic and rational thinker. I often try to think about the bigger picture.

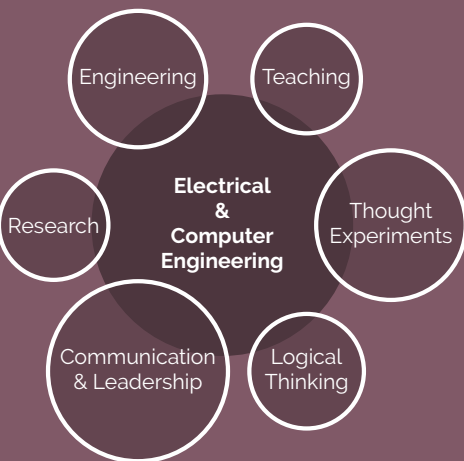


I try to connect how the bigger picture fits in with the smaller tasks and ideas, however unrelated they are.



I like to take time and think my ideas through carefully, challenging common sense as well as my own assumptions.

SUMMARY



INTERESTS

Physics	●	●	●	●	●
Logic	●	●	●	●	●
Nature	●	●	●	●	●
Reading	●	●	●	●	●
Movies	●	●	●	●	●
Photography	●	●	●	●	●
Travel	●	●	●	●	●

LANGUAGES

English	Fluent
Malayalam	Native language
Hindi	Professional
Tamil	Conversational

WORK EXPERIENCE

Present
Aug 2021

NDSU

Research and Teaching Assistant

NORTH DAKOTA STATE UNIVERSITY · Fargo, ND, USA 📍

Research Assistant: Formal verification of quantum circuits, Electromagnetic modelling using PEEC techniques, Electromagnetic source transformations, New device applications exploration.

Teaching Assistant: Courses taught: ECE111-Introduction to ECE, ENGR312-Impact of Technology on Society, ECE375-Digital Design 2.

Labs handled: ECE111, ECE173-Introduction to computing, ECE275-Digital design, ECE374-Computer Organization, ECE 375

July 2024
May 2024



Summer Research Fellow

NATIONAL UNIVERSITY OF SINGAPORE · Kent Ridge, Singapore 📍

Reconfigurable Photonic memory: Design of on-chip negative power supply to program and erase Ferro-electric FET used in reconfigurable photonic memory.

Novel device application: Proposed and worked on validating a power-gating device architecture for backside PDN using IGZO device

Aug 2021
Aug 2019



Verification/Validation Engineer (Tech. Lead)

INTEL TECHNOLOGIES INDIA PVT LTD. · Bangalore, India 📍

IP system validation: PCIe, DMI, Crypto accelerator.

Post Silicon characterization: Electrical, power and performance characterization of ASIC.

Technical Program Management: Sys-debug lead, Validation execution lead, Silicon power-on validation lead.

Aug 2019
Oct 2016



Senior Application Engineer, Semiconductor Business Unit

ANSYS · Bangalore, India 📍

Qualcomm: Complete ownership and lead for Redhawk, Totem and Pathfinder for Qualcomm India. Methodology and flow development, customer training, debug and design fixes.

Tools Handled: Redhawk, Totem, Pathfinder, APL, Redhawk-SC.

Overseas: Training and guidance for Ansys Israel employees. Tool training and customer issue resolution for Ansys customers including Intel, Cisco, Amazon, Inomize, Broadcom

Oct 2016
June 2015



Component Design Engineer

INTEL TECHNOLOGIES INDIA PVT LTD · Bangalore, India 📍

Reliability verification: Custom RV flow ownership and development for Mixed Signal IP group.

RC Extraction: Custom extraction flow support and development.

Work experience prior to 2015 and details are on [LinkedIn Experience](#).

SKILLSET & TOOLS

Quantum Computing, Applied Physics, Semiconductors, VLSI, Circuit Simulation, Verification, Validation, Debug, Python, Matlab, SPICE, Virtuoso Schematic Editor, Totem, Pathfinder, RedHawk MS Office, Linux, Technical Program Management

FORMAL EDUCATION

Present
Aug 2021

NDSU

PhD*

NORTH DAKOTA STATE UNIVERSITY · Fargo, USA 📍

Pursuing PhD in Electrical and Computer Engineering with major emphasis on developing scalable verification methods for quantum algorithms and circuits.

Minor project on Electromagnetic modelling based on Partial Element Equivalent Circuits. **CGPA 4.0/4.0**

2015
2013



2009
2005



Master of Technology

SARDAR VALLABHBHAI NATIONAL INSTITUTE OF TECHNOLOGY · Surat, India 📍

M.Tech in ECE with specialisation in Communication Systems.

Courses: RF Circuits and Systems, Advanced Optical Communication Systems, Advanced DSP, Embedded Systems, Information Theory and Coding, Image Processing, Wireless Communication, Optical Networks, Ad-Hoc networks, MIMO Technology

Dissertation: Efficiency improvements to Intel reliability verification flows for faster and quality IP delivery.

CGPA 8.95/10

Bachelor of Technology

COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY · Kerala, India 📍

B.Tech in ECE.

First class with Distinction

Projects and Seminars: Electronic Bug Detector, Implementation of ADPCM encoder and decoder in VHDL.

Artificial Intelligence, Genomic Signal Processing.



AWARDS AND RECOGNITION

Sep 2023

Session Chair

IEEE RAPID 2023, 2024 🌟

Session chair for "Optical Metamaterials based Devices and Applications".

Aug, 2023

NSF Award #2117190

NATIONAL SCIENCE FOUNDATION 🌟

Assisting in teaching and handling lab for the course *Introduction to programming fundamentals* to native American students.

July 2022

Best Paper Award

IEEE COMPUTER SOCIETY ANNUAL SYMPOSIUM ON VLSI 🌟

Adaptable Multi-Level Voltage to Binary Converter Using Ferroelectric FETs.

Nov 2020

Department Impact Award

INTEL TECHNOLOGIES INDIA PVT LTD 🌟

POC and implementation of AI based tool TUNA for power and performance tuning of discrete SoC.

Nov 2020

Division Recognition Award

INTEL TECHNOLOGIES INDIA PVT LTD 🌟

Successful power on of Discrete SoC.

Details can be found here [📄 Honors](#)



PUBLICATIONS

Sep 2024

On using Square-Shaped Fractal Patterns to Reduce the Operating Frequency of Open Complementary Split Ring Resonators on a Single Conducting Layer

IEEE AP-S/URSI 2024 📄

June 2023

Ternary In-Memory Computing with Cryogenic Quantum Anomalous Hall Effect Memories

GLSVLSI 2023 📄

Apr 2023

Cryogenic In-memory Binary Multiplier Using Quantum Anomalous Hall Effect Memories

ISQED 2023 📄

Mar 2023

Rotational abstractions for verification of quantum Fourier transform circuits.

IET QUANTUM COMMUNICATION 📄

Jul 2022

Adaptable Multi-Level Voltage to Binary Converter Using Ferroelectric FETs

ISVLSI 2022 📄

Complete list of papers can be found here [📄 Google Scholar](#)

“ PHILOSOPHY

Here are certain thoughts that guide my actions as a professional and as a person.

“ *Education is not the learning of many facts, but the training of brain to think.*

– Albert Einstein

“ *It is not that I'm so smart. But I stay with the questions much longer.*

– Albert Einstein

“ *It is the mark of an educated mind to be able to entertain a thought without accepting it.*

– Aristotle

“ *When you have eliminated the impossible, whatever remains, however improbable, must be the truth.*

– Sherlock Holmes

“ *Arise, awake, and stop not till the goal is reached.*

– Katha Upanishad

“ *The people that really create the things that change this industry are both the thinker and doer in one person.*

– Steve Jobs

“ *There is a difference between knowing the path and walking the path.*

– The Matrix

📞 REFERENCES

References are available upon request. Click here for [📄 Recommendations](#).