Charudatta Gurudas Korde

Research Scholar(PhD)
National Institute of Technology
Farmagudi, Ponda, Goa

Contact Detail

Mobile: 8275381582
E-mail: korde.charudatta@gmail.com
LinNet: https://charudatta10.github.io/LinkNet/
LinkedIn: linkedin.com/in/charudatta-korde
ORCID: 0000-0003-0055-4997
Address: H.No. 1055, Primior Bairo , Santacruz, Tiswadi, Goa ,403005 .

Career Objective

Looking for a responsible position as a researcher with a view to utilize and enhance my research and technical skills in a dynamic, growth oriented and technologically driven organization.

Research Interests

- Digital VLSI design.

- Machine Learning.

- Deep Neural Network.

- Field Programmable Gate Arrays.

Academic Projects

Present Research

Title	FPGA based Generative Adversarial Network implementation.
Tool	MATLAB, Spyder, Vivado
Description	To design Generative Adversarial Network(GAN) and its variant using python based Deep Neural Network(DNN) library namely Keras. The studies is conducted by varying parameters of GANs to get stable and robust network. The designed network will be implemented on FPGA to reduce power consumption and to get speed up comparable to GPU.

Master in Engineering

Title	Investigation of Seismogenic Precursors Using Ionospheric Total Electron Content Data.
Tool	MATLAB
Description	Total Electron Content(TEC) Data was gathered from earth based station near earthquake epicenter. Then gathered data is than filtered and processed with Multi Fractal Detrended Fluctuation Analysis(MFDFA) technique. The singularity spectra obtained from MFDFA is used to distinguish between normal TEC data and variation in TEC data due to earthquake.

<div align="right">Bachelors in Engineering</div>

Title	Handwritten Devanagari text recognition and VHDL implimentation.
Tool	MATLAB, Xilinx ISE
Description	Raw scanned copies of hand written manuscripts and documents containing Devanagari Scripts (such as Marathi, Kokani, Hindi) were gathered. This raw files were prepossessed to filter out any noise in file. Which are then segmented horizontally to obtain rows. Similar process is is repeated with vertical segmentation get individual letters. The segmented letters are than fed to hopfeild neural network recognition. The Devanagari optical character recognition system discuused was implemented in MATLAB and VHDL.

FOSS Projects

Title	GenAiTamago.
Tool	Python, PyTorch
Description	The GenAiTamago encompasses various GAN architectures, including VanillaGAN, ConditionalGAN, DCGAN, and WGAN. GenAiTamago used to trace signals and generate handwritten digits based on provided prompts.

Title	readme-generator
Tool	Python, jinja2
Description	The readme-generator generates and adds hero svg, dependency badges, status dynamic badges to readme.

Title	LinkNet
Tool	Python, jinja2, flask
Description	The LinkNet is a python based link aggregator platform. LinkNet has custom icons configurable through json config file. LinkNet is flask app with static hosting options available.

Title	MyBlog
Tool	Python, mkdocs
Description	MyBlog is statics website using mkdocs configured to host my portfolio. MyBlog has blog section, portfolio section, home and about sections.

Title	legendary-dollop
Tool	Python, flask
Description	The legendary-dollop is a SVG generator project. The project generates svg's such as glitch, luminance, badge etc.

Title	improved-barnacle
Tool	Python, jinja2
Description	The improved-barnacle is a python script to clean download directory. The Project sorts through the files by extension and move files to folder.

Academic Publications

Year	Publication
2021	K. G. Shreeharsha, C. G. Korde, M. H. Vasantha and Y. B. Nithin Kumar, "Training of Generative Adversarial Networks using Particle Swarm Optimization Algorithm", Proceedings in 2021 IEEE International Symposium on Smart Electronic Systems (iSES).
2019	C. G. Korde, M. Reddy K., V. M. H. and N. K. Y. B, "Training of Generative Adversarial Networks with Hybrid Evolutionary Optimization Technique", Proceedings in 2019 IEEE 16th India Council International Conference (INDICON).
2018	Barve, S Raveendran S, Korde C ,Panigrahi T, Nithin Kumar Y, Vasantha M, "FPGA implementation of square and cube architecture using vedic mathematics", Proceedings in 2018 IEEE 4th International Symposium on Smart Electronic Systems, iSES 2018.
2017	Korde C. G., Chandrasekhar, E. and Shenvi, N., "Multifractal analysis of ionospheric disturbances triggered by earthquakes", Proceedings - 18th Annual conference of the International Association of Mathematical Geosciences (IAMG 2017),Perth, Australia,September, 2017(POSTER).
2015	Korde C. G., Khedekar V. G., Rane K. P. , Nayak A., Mahaddalkar S., "Implementation of FPGA Based Pre-Processing Algorithms for Devnagri Script Recognition Systems", Proceedings in 2018 IEEE Computer Society Annual Symposium on VLSI (ISVLSI), pp. 164-169,Goa, India, 2015.

Articles Published

1. exploring the legendary dollop repository an svg generator

2. Organization schemes for note taking

3. VS Code for Note-Taking

4. Improved-Barnacle repository: *TheCleanupPythonScript*

5. Vscode setup with Foam and Logseq for Digital Note Taking

6. Collaborative Note-Taking with AI: Tools that Facilitate Teamwork and Knowledge Sharing

7. Visual Note-Taking Apps: Unleashing Creativity with AI-Driven Mind Maps and Doodles

8. Introduction to Digital Note-Taking: A Beginner's Guide

Educational Qualifications

Year	Degree and Institute	Grade
2018 - Present	PhD in VLSI National Institute of Technology, Goa	CGPA: 8.6/10
2015 - 2017	Master of Engineering in Microelectronics Goa College of Engineering, Goa.	CGPA: 8.0/10
2011 - 2015	Bachelor of Technology in EEE Goa College of Engineering, Goa.	Percentage: 76%
2009 - 2011	H.S.S.C. (GOA Board) Santa-Cruz Higher Secondary School, Santacruz, Goa.	Percentage: 71 %
2004 - 2009	S.S.C (GOA Board) Dr.K.B.Hedgewar Highschool, Panaji, Goa.	Percentage: 69 %

Technical Skills

Languages	MATLAB, Verilog, Python, C, Julia, VHDL, Cuda.
Hardware Platforms	Nvidia GPU, Raspberry Pi, Arduino, FPGA (Basys 3, ZedBoard).
Tools	Quartus, MATLAB, Vivado HLX, Spyder (Anaconda).
Feilds	Deep Neural Networks, Machine Vision - Image Processing, Evolutionary Algorithms, Fuzzy Logic, Cryptography and Network Security, Neural Networks , Fractals.

Work Experience

september 2019 - march 2020

Title	Software Validation Engineer
Tool	Quartus 19.3, 19.4, 20.1
Description	I interned with Intel Banglore Bellandur SSR4. I worked on testing and validation of the Quartus tool for Partial Reconfiguration and Heraichial design flows.

Work

- Github: https://github.com/charudatta10

- Dev.to: https://dev.to/charudatta10

- GitHub Pages: https://charudatta10.github.io/myblog/

Social

- Discord: https://discord.gg/6SjyKxVE

- Pinterest: https://in.pinterest.com/charudattakorde/

- Instagram: https://www.instagram.com/ryunabi326/

Workshop

- Optical Flare National Workshop on Optical Imaging and Sensing, Optical Communications and Networking, Display Technology, Nano, Opto and Bio Electronics, Remote Sensing and LASERS and their Applications, conducted at NIT Goa, on the 16th and 17th of March, 2013.

- A Workshop on Industrial Automation - Programmable Logic Controller (PLC) & Supervisory Control and Data Acquisition (SCADA). The workshop gave introduction to PLC design and design of Milk packging plant using SCADA. conducted at GEC Goa, from 15th to 18th of Aprill, 2014.

- DSP System Design workshop which was conducted by GEC Goa. Which provided introduction to industry's next generation model based programming using MATLAB-SIMULINK interface. It also introduced attendee to new developer environment called Vissim. The workshop was held from 12th to 14th of March, 2015.

EXTRA CURRICULAR ACTIVITIES

- Priest.
- Freelancer.
- Investor.
- Learning.

PERSONAL SKILLS

- Problem-Solving Abilities.
- Adaptability and Flexibility.
- Creativity and Innovation.
- Emotional Intelligence.
- Teamwork and Collaboration.
- Leadership Skills.
- Critical Thinking.

Professional Affiliations

- Institute of Electrical and Electronics Engineers (Student Member since 2015).
- IEEE Computational Intelligence Society (2019 - 2020).
- United Nations Children's Fund India (Member since 2016).

Hobbies

- Coding.
- Gardening.
- Reading.
- Traveling.
- Binge Watch.
- Playing Chess.
- Cooking.

References

- Dr. M.H. Vasantha
  Associate professor, Dept. of ECE, NIT Goa
  Email: vasanthmh@nitgoa.ac.in

- Dr. Y.B.Nithin Kumar
  Associate professor, Dept. of ECE, NIT Goa
  Email: nithin.shastri@gmail.com