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Skills

Programming Languages
Python, MATLAB, C, JavaScript, Verilog, LaTeX

Deep Learning Frameworks & Libraries
PyTorch, ignite, torchvision, torchtext, scikit-learn

Image Processing Libraries
scikit-image, OpenCV, Pillow

Web Development
Django, React, JavaScript, HTML, SCSS

Data Mining Libraries
Google BigQuery, SQL, requests, BeautifulSoup, selenium, scrapy

Applications
Xilinx Vivado, Microsoft Azure, Keil µVision, GitHub

Hardware
Raspberry Pi, Arduino, Xilinx Spartan FPGA

Operating Systems
Linux, MacOS, Windows

Completed Projects

Nuclei Segmentation
Segmentation of nuclei in histopathology images of kidney tissues to aid early diagnosis of cancer using Deep Convolutional Neural Networks(CNNs).

Face Detection and Recognition
Implementing real time face detection and recognition using OpenCV, scikit-learn and dlib on a Raspberry Pi.

Detecting Ponzi Schemes in Ethereum smart-contracts
Using semi-supervised learning on raw bytecode, of smart contracts deployed on the Ethereum blockchain, mined using Google BigQuery.

Fake News Classifier
Classifying news into true, mostly true, half true, barely true, false and pants-fire to help prevent the spread of fake news using Natural Language Processing(NLP).

Spell Checker
A command line based spell checker written in pure C.

Elections on Blockchain
Using solidity and Microsoft Azure Blockchain workbench for secure, reliable elections deployed on the blockchain.

Space-Time Adaptive Processing(STAP) Radar
Studying Radar Signal Processing and implementing a Space-time Adaptive Processing (STAP) radar in MATLAB.

Ongoing Projects

Emotion Recognition
Using EEG, ECG, GSR, SKT signals to recognize emotions to help people suffering from PTSD, anxiety and Autism Spectrum Disorder(ASD)

Ancient Japanese Text Recognition
Using CNNs to localize and classify cursive Kuzushiji text.

Recursion Cell Image Segmentation
Using deep learning to eliminate experimental noise from biological images.

Education

National Institute of Technology, Karnataka, India 2017-2021(expected)
B.Tech in Electronics and Communications Engineering

Little Rock Indian School, Karnataka, India 2004-2017
K-12

Course Work

Digital signal processing in Python, Digital system design in Verilog, Embedded system design, Microprocessors, Control Sytems, Numerical Analysis, Data structures and algorithms, Digital & Analog electronics, Digital & Analog communication

Awards and Honors

School topper in Math(99/100) and English(98/100) in Grade 12

Top 1%(CGPA 10.0) in India in Grade 10

Experience

Research Intern May 2019 - July 2019
Under Dr. Shyam Lal - NITK, India
Worked on segmentation of H&E stained histopathology images of kidney tissues to detect kidney cancer. Studied fundamentals of image processing, machine learning, deep learning and computer vision.

Frontend Engineer August 2018 - April 2019
IRIS, NITK (Official student management portal)
Worked on building the frontend for the official student management portal used by more than 10 thousand people including students, faculty, administrators and alumni.
Mentored a freshman intern on frontend testing using JavaScript during Winter 2018.

Python Developer May 2018 - July 2018
Pinnacle Media (Local Media Firm)
Worked on implementing real-time face detection and recognition using OpenCV, dlib and scikit-learn on Raspberry Pi.

Interests

Computer Vision, Biomedical Imaging, Bionics, Augmented Reality, Reinforcement learning