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Skills

Programming languages
Python, MATLAB, C, C++, JavaScript, Verilog, LaTeX

Deep learning
PyTorch, torchvision, torchtext, scikit-learn

Image processing
scikit-image, OpenCV, PIL

Data mining
Google BigQuery, SQL

Applications
Xilinx Vivado, Microsoft Azure, Keil µVision

Hardware
Raspberry Pi, Arduino, Xilinx Nexys-4

Web/app development
Django, React, React Native, JavaScript

Projects

Deep learning for colon cancer detection Nov 2019 - Present
Design and development of an automated colon cancer detection system from H&E stained histopathology images.

Emotion recognition using physiological signals Aug 2019 - Present
Designing an embedded system to recognize emotions using ECG, GSR and SKT signals with deep learning.

Deep learning for kidney cancer detection May 2019 - Sep 2019
Segmentation of nuclei in histopathology images of kidney tissues to improve the automated diagnosis of cancer using deep convolutional neural networks.

Detecting Ponzi schemes in Ethereum smart-contracts Aug 2019 - Sep 2019
Using semi-supervised learning on raw bytecode of smart contracts deployed on the Ethereum blockchain mined using Google BigQuery.

Fake news detector Jul 2019 - Aug 2019
Classifying news articles on a scale from true to fake to help prevent the spread of fake news using natural language processing.

Space-Time Adaptive Processing in radars Apr 2019 - May 2019
Studying Radar Signal Processing and implementing Space-time Adaptive Processing(STAP) in a radar in MATLAB.

Spell checker Oct 2018 - Nov 2018
A command line based spell checker written in C.

Real-time face detection and recognition May 2018 - Jul 2018
Building a real time face detection and recognition system using OpenCV, scikit-learn and dlib on a Raspberry Pi.

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 Assistant Oct 2019 - Present
Under Dr. Shyam Lal - NITK, India
Design and development of automated colon cancer detection system from H&E stained histopathological images.

Research Intern May 2019 - Jul 2019
Under Dr. Shyam Lal - NITK, India
Worked on building deep learning models for the segmentation of H&E stained histopathology images of kidney tissues to improve the automated diagnosis of kidney cancer.

Frontend Engineer Aug 2018 - Apr 2019
IRIS-NITK, India
Worked on building the frontend for the official student management portal 'IRIS' with more than five thousand daily active users including students, faculty, administrators and alumni.
Mentored a freshman intern on frontend testing using JavaScript - Winter 2018.

Python Developer May 2018 - Jul 2018
Pinnacle Media, Manipal, India
Worked on implementing real time face detection and recognition using OpenCV, dlib and scikit-learn on a Raspberry Pi.

Interests

Medical imaging, biomedical signal processing, computer vision, cybernetics, augmented reality