

Gopi Kishan

MACHINE LEARNING ENTHUSIAST

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"What I can not create, I do not understand."

Summary

A curious computer scientist in making trying to find answers and solutions for problems in Artificial Intelligence. Familiar with Machine Learning, Deep Learning, Reinforcement Learning and Computer Science Fundamentals, with a specific interest in Computer Vision, Bayesian Learning and Representation Learning. Easily excited by mathematics, music and tea.

Education

Indian Institute of Technology, Roorkee

Roorkee, India

B.TECH. IN COMPUTER SCIENCE AND ENGINEERING

2017 - Exp. 2021

- CGPA: 9.1/10

Cambridge Public School, Raxaul

Raxaul, India

GRADE 12 (SENIOR SECONDARY LEVEL)

2017

- Percentage: 90%

Cambridge Public School, Raxaul

Raxaul, India

GRADE 10 (SECONDARY LEVEL)

2015

- CGPA: 10/10

Experience

Indian Institute of Science (IISc)

Bangalore, India

RESEARCH INTERNSHIP

May, 2019 - July, 2019

- Summer Research Internship under the guidance of Prof. Debasish Ghose.
- Part of the Guidance, Control and Decision Systems Laboratory (GCDSL) at Department of Aerospace, IISc.
- Worked on model compression techniques.
- Experimented with pruning, weight matrix factorization, quantization and knowledge distillation on DNN and autoencoders.
- Explored latent representation priors in Variational AutoEncoder. Github [link](#).

Indian Institute of Technology Bombay

Mumbai, India

INTERNSHIP

June 2018 - July 2018

- Summer learning based internship under Dr. Biplab Banerjee
- Associated with VIP lab under CSRE department IIT Bombay
- Worked on Face detection algorithms (RCNN, Fast-RCNN, Faster-RCNN, YOLO) on VGG-16 architecture and trained on Widerface dataset.

Projects

Self Balancing Bot using RL

IIT Roorkee, India

PROJECT UNDER ARIES, IIT ROORKEE

October, 2018 - March, 2019

- This project aims at stabilising a two wheeled robot using Reinforcement Learning.
- Q-learning algorithm is used to train the bot in virtual environment made using gym and pyBullet.
- Detailed description and code is available [here](#).

One shot learning using siamese network

Roorkee, India

ACM IITR

Jan. 2019 - Apr. 2019

- Built a face recognition siamese network using one shot learning implemented in keras trained on omniglot dataset.
- Description and code present on [Github](#).

Honours & Achievements

- 2017 **All India Rank - 1114**, JEE Advanced, administered by Indian Institutes of Technology
- 2017 **All India Rank - 2700**, JEE Main, taken by more than a million students.
- 2019 **Flipkart Grid-Challenge**, Under top 5 at IITR (and 36th in India).
- 2019 **Micronet Challenge**, TPU Credits Awardee, Awarded to global top 25 proposals.

AIChallenges

MicroNet: Large-Scale Model Compression Competition

DEEPMIND, HOSTED AT NEURIPS 2019

World
June 2019 - Oct. 2019

- This competition is focused on efficient inference. I trained and quantized a resnet18 on CIFAR100.
- Approach was of learning a codebook C that minimizes the difference between the output activations and their reconstructions.
- Complete description of method and code is available at [Github](#).

Microsoft AI Challenge

ORGANISED BY MICROSOFT

India
December 2018

- phase 1 : Involved improvement in classical page rank algorithm.
- phase 2 : Involved exploration of NLP based technique to find relevant search results on bing search engines.

PanIIT Challenges

ORGANISED BY TATA CONSULTANCY SERVICES LIMITED (TCS)

India
Jan. 2019

- Built a tuberculosis detection android app based on Deep Visual Attention using TFLite.

Skills

Programming	Python, C++, JAVA, C, Javascript
Frameworks and Packages	Tensorflow, Keras, scikit-learn, openCV, gym, Numpy, Pandas, Matplotlib
Utilities	Git, Linux Shell, Vim
Relevant Courses (online)	Deeplearning.ai Specialization (by Andrew Ng), cs231n (for Computer Vision) cs229 (for Machine Learning), RL course by David Silver, stat110 (for Probability and Statistics)
Books Referred	Deeplearning by Goodfellow, Pattern Recognition and Machine Learning by Bishop, Reinforcement Learning : An Introduction by S. Sutton
Courses	Mathematics-1 (covered Linear Algebra and Calculus), Optimization Techniques, Discrete Structures, Data Structures and Algorithms

Extracurricular Activity

Artificial Intelligence and Electronic Society (Aries)

CORE MEMBER

IIT Roorkee, India
May 2019 - PRESENT

- As member of the core team, my responsibility is to assign, mentor and engage in innovative IoT and ML projects.

ACM-IIT Roorkee Chapter

MODERATOR

IIT Roorkee, India
July 2019 - PRESENT

- Connected with Association for Computing Machinery (ACM) network.
- As Linux discussion moderator, my responsibility is to organise discussions on Linux OS for freshers and sophomores.

Smart India Hackathon Grand Finale

ORGANISED BY MHRD, INDIA

India
2019

- Built a Blockchain based complaint system to assist fixing water wastage issues.

References

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Biplab Banerjee

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