

# Prakhar Ganesh

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## EDUCATION

### INDIAN INSTITUTE OF TECHNOLOGY (IIT) DELHI

BTECH IN COMPUTER SCIENCE AND ENGINEERING

2015 - 2019

Cum. GPA: 7.84

### DAV PUBLIC SCHOOL, KOTA

CLASS XII, CBSE

2015

Percentage: 92.4%

### ST. PAUL'S SR. SEC. SCHOOL, SIROHI

CLASS X, CBSE

2013

Cum. GPA: 10.0

## LINKS

Github:// [prakharg24](#)

LinkedIn:// [prakharg24](#)

HomePage:// [cs1150245](#)

## COURSEWORK

Natural Language Processing

Machine Learning

Artificial Intelligence

Digital Image Analysis

Data Mining

Spl. Module In Artificial Int.

Design Practices

Minor Design Projects

Fundamentals of Language Sciences

Computer Networks

Parallel Computing

Operating Systems

Computer Architecture

Digital Logic

Theory of Computation

Programming Languages

Data Structures & Algorithms

Discrete Mathematics

Linear Algebra.

Prob. & Stochastic Processes

## TECHNICAL SKILLS

### PROGRAMMING LANGUAGES

C, CPP, Python, Java, OCaml, Prolog,

VHDL, Visual Basic

### FRAMEWORKS

OpenCV, OpenMP, MPI, Git, Tensorflow,

PyTorch, Keras, Socket, Pandas, Numpy

## INTERNSHIPS & MAJOR PROJECTS

### SUMMER RESEARCH INTERN | ENCODING METHODS IN GENOMICS

May'17-July'17 | Under Prof. Kolin Paul, IIT Delhi

- Developed a novel encoding method, Nucl2Vec, for Genome variant calling
- Based on Skip-Gram model, providing a distributed vector representation.
- About 3 times faster than the existing state of the art in NGS Read Alignment.
- 97% accuracy against the existing defacto standard BWA-MEM alignments.

### DATA ANALYST | DEEP REINFORCEMENT LEARNING IN HFT

May'18-July'18 | WealthNet Advisors, Delhi

- Literature Review and Performance comparison of existing ML techniques.
- Developed a pipeline based on Deep RL Models.
- Introduced a novel way of modeling the HFT problem statement.
- Complete pipeline integrated to the company's trading module in C++.

### BACHELOR'S THESIS PROJECT | POSE ESTIMATION AND TRACKING

Aug'18 - Present | Under Prof. Rahul Garg, IIT Delhi

- Consolidation of existing DL techniques, Body Models and Vision Features.
- Feature creation and Interpretation of data from kinect & synthetic animations.
- Targeting the domain of Yoga posture stability, which includes obscuring postures and unconventional extensions of the body.
- Move towards multiple cameras multiple people human pose estimation.

## OTHER PROJECTS

### ABSTRACTIVE SUMMARIZATION OF DIALOGUES

March'18 - May'18 | Natural Language Processing, Prof. Mausam, IIT Delhi

- Pointer Generator Network and Coverage on top of Attention based model.
- Provide a graph structure to conversations from discourse relations using CRF.
- Extractive summary from graph followed by final abstractive summarization.
- BLEU scores comparable to the state of the art. Check working model here.

### AUDIO TACTILE READER FOR VISUALLY CHALLENGED

Jan'17 - Apr'17 | Design Practices, Prof. M. Balakrishnan, IIT Delhi

- Android App for real time finger gestures and movement detection.
- Windows app for automated data generation and mapping to Vector images.
- Presented live demo for visually challenged in IITD Open House. Blog link.

### GENOME VARIANT CALLING USING CNN

Aug'17 - Nov'17 | Minor Design Project, Prof Kolin Paul, IIT Delhi

- Designed a novel CNN based DNA alignment model achieving good speedups.
- Integrated with DAVI (DL based Single Nucleotide Variant identification).
- Collaborated with M.Tech students to complete the variant calling pipeline.

### COURSE PROJECTS

- Parallel Multi-level Graph Partitioning - Parallel Computing
- ARM Processor State Machine and Simulator - Computer Architecture
- Krivine and SECD Machine in OCaml - Programming Languages
- Implementation of all common ML algorithms - Machine Learning

## HOBBIES

Dance, Sketching, Debating, Painting, Basketball