

RAKESH BAL

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EDUCATION

Indian Institute of Technology Kharagpur

Department of Computer Science and Engineering
Bachelor Of Technology(Hons.)

July 2016 - Present

Overall CGPA: 9.40/10

Baxi Jagabandhu Bidyadhar Junior College

Council Of Higher Secondary Education, Odisha
Intermediate In Science

July 2014 - May 2016

Overall Percentage: 89%

St. Joseph's High School

Indian Certificate of Secondary Education
Matriculation

April 2011 - May 2014

Overall Percentage: 96%

INTERESTS

Machine Learning and Artificial Intelligence
Natural Language Processing

Computer Vision
Image Processing

TECHNICAL STRENGTHS

Programming Languages

C, C++, MATLAB/Octave, Python, JavaScript

Software & Tools

OpenCV, ROS, Git, LaTeX

Web Development

HTML, CSS

Machine Learning

TensorFlow, Scikit-Learn, PyTorch

RESEARCH EXPERIENCE

Autonomous Underwater Vehicle, IIT Kharagpur

March 2017 - Present

Guide: Prof. C S Kumar

- Studied and implementing Faster R-CNN for Real-Time Object Detection and Localization.
- Used Actionlib and Smach Packages of ROS to create Mission Planner Stack on Kraken 4.0.
- Used OpenCV and ROS to implement HSV Thresholding on ROSBAG files for Buoy Detection.
- Implemented Canny Edge Detector as part of Edge Detection using OpenCV in C++.

PROJECTS

Movie Recommender App-Synisto(Under Construction)

August 2017 - Present

IIT Kharagpur

Self Project

- Used Collaborative Filtering based algorithm to train on MovieLens Dataset.
- Added Recommendation for new users based on ratings of few movies.
- Tools Used- Scipy, Numpy.

FAIR Sequence To Sequence Learning

December 2017

Guide: Prof. Pawan Goyal

- Studied and analyzed the research paper on Convolutional Sequence to Sequence Learning.
- Analysed the results on the pre-trained models for Fair-Seq in PyTorch.
- Tools Used- PyTorch.

- Implemented KMeans Clustering algorithm to find dominant colors in an image.
- Achieved a 6 times reduction in size by using only the dominant colors for Image Representation.
- Tools Used- Octave.

ACADEMIC ACHIEVEMENTS

Secured All India Rank of 265(amongst 200,000 candidates) in IIT-JEE Advanced 2016.

Outperformed in Electrical Technology course securing an EX grade given only to exceptionally performing students (top 1 percent).

Ranked in National Top 0.014% (amongst 13,00,000 candidates) in JEE Mains 2016 with an All India Rank of 187.

Qualified Kishore Vaigyanik Protsahan Yojana (Written and Interview) in SX stream (Organized by Indian Institute Of Science, Bangalore) with an All India Rank of 191.

Qualified National Talent Search Examination conducted by NCERT in Xth standard and had secured 3rd rank in the state level stage of the exam.

Qualified for Indian National Physics, Chemistry and Astronomy Olympiad conducted by HBCSE.

RELEVANT COURSES

Core Courses

Programming And Data Structures
Algorithms-I
Discrete Structures
Signals And Networks

Other Courses

Machine Learning (Coursera)
Deep Learning Specialization(Coursera)(ongoing)
CS231n: CNNs for Visual Recognition(ongoing)
Introduction To Computer Vision(Udacity)

POSITION OF RESPONSIBILITY

National Digital Library, IIT Kharagpur
Intern

September 2017 - Present
IIT Kharagpur

- Prepared solutions for Previous years JEE Question Papers for NDL JEE Archive.
- Reviewed solutions of various JEE papers as a part of the JEE Solutions Archive.

Spring Fest 2017
Crew Member

January 2017 - Feb 2017
IIT Kharagpur

- Managed the performance of international artists during the fest.
- Successfully organized Shuffle Event and prepared music tracks for the event.
- Managed the Youth Marathon during the fest.

EXTRA-CURRICULAR ACTIVITIES

Participated as a cadet at National Cadet Corps, IIT Kharagpur taking part in Republic Day Parade.

Represented LBS Hall, IIT Kharagpur in InterHall Maths Olympiad General Championship.

Qualified for semifinals of debating tournament conducted by Debating Society, IIT Kharagpur.

Secured 4th position in the Science Quiz held by Institute Of Physics, Bhubaneswar.

Secured 5th position in Rakesh Memorial Chess Championship at Puri.