RAKESH BAL

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EDUCATION

Indian Institute of Technology (IIT) Kharagpur, West Bengal, India | 2016 – 2020 (Expected)

Undergraduate Major in Computer Science And Engineering. — CGPA - 9.34/10

BJB Junior College, Odisha, India | 2014 – 2016

Intermediate In Science, CHSE, Odisha. — Overall Percentage-89%

St. Joseph's High School, Odisha, India | 2011 – 2014

Matriculation, ICSE, New Delhi. — Overall Percentage-96%

PROJECTS

Discovering and Mitigating Algorithmic Bias using Deep Neural Networks

Guide: Dr Niloy Ganguly

Working on discovering bias in COMPAS dataset using deep neural networks and its mitigation using Layerwise Relevance Propagation technique.

Other Projects I spend some time working on small projects some of which are hosted on GitHub.

- Synisto: A Collaborative Filtering based application to suggest movie to users on MovieLens 1M dataset — GitHub
- Fairseq: FAIR Convolutional Sequence To Sequence Learning — GitHub

WORK EXPERIENCE

AI Team Member Autonomous Underwater Vehicle, IIT Kharagpur | Feb 2017 - Present

Machine Learning, Computer Vision, Robotics   Guide: Dr CS Kumar

Used Actionlib and Smach Packages of ROS to create Mission Planner Stack on Kraken 4.0

Implemented real time under water buoy detection using lighter version of YOLO Object Detection.

Working on making the inference of models lightweight and suitable for the bot using Movidius NCS

AUV IIT Kgp | Kraken 3.0

SKILLS

- Languages: Python, C/C++, Matlab/Octave, Java, Verilog
- Computer Vision, Robotics and Machine Learning: TensorFlow, TF Learn, Scikit Learn, PyTorch, Keras, ROS, OpenCV, Git

COURSEWORK INFORMATION

- **Departmental Courses:** Algorithms-I & II, Discrete Mathematics, Linear Algebra, Formal Language And Automata Theory, Switching Circuits And Logic Design, Computer Organization And Architecture, Compilers, Knowledge Modelling And Semantic Technologies
- **Other Relevant Courses:** Deep Learning Specialization(Coursera), CS231n: CNNs for Visual Recognition (Stanford), CS294-112: Deep RL (UC Berkeley)

ACADEMIC ACHIEVEMENTS

- Secured All India Rank of 265 (amongst 200,000 candidates) in IIT-JEE Advanced 2016.
- 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 for Indian National Physics, Chemistry and Astronomy Olympiad conducted by HBCSE.

EXTRA CURRICULARS

- Interned at National Digital Library preparing solutions for previous years JEE solutions.
- Participated as a cadet at National Cadet Corps, IIT Kharagpur including taking part in Republic Day Parade.
- Represented LBS Hall, IIT Kharagpur in InterHall Maths Olympiad General Championship.