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%

PROJECTS

Discovering and Mitigating Algorithmic Bias using Deep Neural Networks   April 2018 - Present
Guide: Dr Niloy Ganguly

- Working on discovering bias in COMPAS dataset using deep neural networks.
- Formulating ideas for its mitigation using Layerwise Relevance Propagation technique.

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

- Working on deploying a Reinforcement Learning agent in traffic simulation softwares.
- Fairseq: Analysed the paper on Convolutional Sequence to Sequence Learning by FAIR — GitHub
- Synisto: A Collaborative Filtering based application to suggest movie to users on MovieLens 1M dataset — GitHub

WORK EXPERIENCE

AI Team Member Autonomous Underwater Vehicle, IIT Kharagpur   Feb 2017 - Present
Machine Learning, Computer Vision, Robotics   Guide: Dr CS Kumar
Implemented real time under water buoy detection using lighter version of MobileNet and YOLO Object Detection architectures.
Used Actionlib and Smach Packages of ROS to create Mission Planner Stack on Kraken 3.0.
Working on making the inference of models lightweight and suitable for the bot using Movidius NCS.
AUV IIT Kgp | Kraken 3.0

SKILLS

- **Interests:** Machine Learning, Computer Vision, Robotics
- **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 and archiving them for previous years JEE questions.
- Participated as a cadet at National Cadet Corps, IIT Kharagpur including taking part in Republic Day Parade.
- Secured 4th position in the Science Quiz held by Institute Of Physics, Bhubaneswar.