Rahul Kumar

Indian Institute Of Technology Patna

As a student, I am always energetic and eager to learn new skills. I have strong coding ability both in producing clean and efficient code as well as debugging and understanding large code bases. I have experience of modern source control(Git). I have also experience with independent and team-based work and I see the value in both approaches.

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EDUCATION

Bachelor Of Technology
Electrical Engineering, IIT PATNA
04/2016 – Present *CPI - 7.28*

Intermediate/+2
Adarsh Vikas Vidyalaya (CBSE)
05/2014 – 04/2016 *Score - 90.2%*

RESEARCH INTERNSHIP

Gestures Recognition for Human-Robot Interaction
TCS Research & Innovation
12/2019 – 01/2020 *Kolkata, West Bengal*

Research is the foundation on which robust innovation is built. TCS relies on research-based innovation to solve customer challenges and provide impactful solutions. They have a network of Innovation Labs that are focused on domains and technologies, and which enable agile proofs of concept that can later be scaled to commercial offerings.

Tasks

- Build a monocular vision based robust gesture identification network for natural human-robot interaction.
- Prepared own datasets of commonly used gestures while interaction between human-human.
- Designed a system which recognizes gesture as an input and as per identified gesture command will be given to robot for its movement.

Guide: Dr. Chayan Sarkar – Scientist at TCS Research & Innovation

Multi-Task Learning For Automated Essay Scoring
IIT BOMBAY
05/2019 – 07/2019 *Powai, Mumbai*

"Center For Indian Language Technology" (CFILT), the laboratory in the CSE Department, at IIT Bombay, is a leader in research and development in Natural Language Processing (NLP). They are the first to create many technologies like an Indian language search engine, Indian language wordnets, and Projections for NLP problems.

Tasks

- Designed a deep multi-task learning model for Automated Essay Scoring.
- Enhanced the baseline model with multi-task learning, using the attribute scores of the essays like language fluency, vocabulary, structure, organization, content, etc.
- The multi-task learning model performed well in all 8 prompts of the ASAP++ competition datasets.

Guide: Prof. Pushpak Bhattacharyya, Department of Computer Science and Engineering, IIT Bombay

TECHNICAL SKILLS

C++ | Python | Keras | NumPy | Pandas | Scikit-Learn | TensorFlow | Git and GitHub | MATLAB | Simulink | Jupyter Notebook | Verilog | Ubuntu | Heroku | WEKA | Open Source

PERSONAL PROJECTS

Automated Essay Scoring (Btech Project) (07/2019 – Present)

- This project aims to build a machine learning system for the automatic scoring of essays written by students. The basic idea is to build a multi-task learning system which can model the attributes like language fluency, vocabulary, structure, organization, content, etc. simultaneously along with calculating the overall score of the essay.

Online Feature Selection (08/2018 – 04/2019)

- To select a set of prominent features which best describe the data to improve the efficiency without degrading the accuracy of the model. Online feature selection strategies become popular to handle this problem in an online fashion.

Hardware Security (02/2019 – 05/2019)

- Ring oscillator (RO) based physical unclonable function (PUF) which is resilient against noise impacts and with the very high-temperature stability.

PUBLICATION

Online Feature Selection for Multi-label Classification in Multiobjective Optimization Framework

Description - It addresses the online feature selection problem in a multi-label classification framework where multi-labeled data with features arriving in an online fashion is considered as input.

CERTIFICATES

Multi-Task Learning For Automated Essay Scoring

Machine Learning and it's Role in IoT Analytics (GIAN)

INTERESTS

Machine Learning | Deep Learning | Natural Language Processing | Computer Vision | Pattern Recognition