Kousik Rajesh

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EDUCATION

INDIAN INSTITUTE OF TECHNOLOGY, GUWAHATI

BTech in Computer Science and Engineering
Exp 2022
9.30/10.0 Grade Point Average

RYAN INTERNATIONAL SCHOOL CBSE

2016 - 2018 | Greater Noida
Senior Secondary: 97.4% | Ranked first
High School CGPA: 10.0/10.0

COURSEWORK

Deep Learning Specialization
- Neural Networks
- Hyperparameter tuning
- Structuring ML Projects
- Convolutional Neural Networks
- Sequence Models

Machine Learning
Version Control with Git
Probability Theory and Random Processes
Linear Algebra and Differential Equations
Algorithms and Data Structures
System Software Lab
Discrete Mathematics
Game Theory and Economics*
Design and Analysis of Algorithms*
Formal Languages and Automata Theory*
Database Management Systems*

** Ongoing courses*

SKILLS

PROGRAMMING

Languages:
Python • C++ • C • JavaScript* • Shell*

Frameworks and Libraries:
Pytorch • Keras • Pandas • Sklearn • Numpy • OpenCV

Miscellaneous:
Git • Data Analysis • Web Scraping • HTML • CSS* • ROS • Arduino • SQL • LaTeX

** Elementary Proficiency*

PROJECTS

HDR IMAGE GENERATION

Dr. Shanmuganathan Raman | IIT Gandhinagar
- A deep learning approach to HDR(High Dynamic Range) image regeneration from a single LDR image
- Implemented an encoder decoder U-Net architecture which works in the CIELAB color space for better and accurate color generation

VIDEO ACTIVITY CLASSIFICATION

VIEW

February 2020 | Personal Project
- The task was to identify actions and sub-actions in a given video segment using deep learning
- The dataset consisted of pre-computed feature vectors for each frame representing some form of activity
- Implemented a Bilayer LSTM model to classify each video segment into one of 10 action classes

RUBIK'S CUBE SOLVER

VIEW

March 2019 | Robotics club, IITG
- A Rubik's cube solving bot using Computer Vision which scans and solves a 3x3 Rubik's cube
- Implemented a unique unsupervised learning based method for color classification of Rubik's cube in CIELAB color space which performed better than classical approaches
- Created a GUI for displaying cube state

LEAF CLASSIFICATION

VIEW

October 2019 | Kriti 2019
- A convolutional model for leaf classification of the Northeastern United States 185 tree species dataset
- Achieved a classification accuracy of 88% on test data

HERMES

VIEW

Ongoing | Personal Project
- **H**ashed, **E**ncrypted and **R**atched **MES**saging : An asynchronous end to end encrypted messaging socket application based on the signal protocol
- Uses sender keys for linear time complexity in a group messaging application
- Uses the Multithreading library in python for parallel message transfer

POSITIONS OF RESPONSIBILITY

- Core Team Member at **IITG.AI**
- Core team Member at **4i Labs, IITG**
- Project Manager at **Equinox - Astronomy club, IITG**
- Organizer, **Technothlon**

ACHIEVEMENTS

2020	National round	Selected for National Round of Smart India Hackathon
2019	2nd position	Leaf classification ML hackathon
2018-2019	Hacktoberfest	Made 4 open source contributions
2017-2018	Top 1%	KVPY(SX) Fellowship
2015-2016	Top 1%	NTSE Scholarship