

# SAHIL YADAV

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## EDUCATION

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<b>Birla Institute of Technology and Science, Pilani</b>	2018 - 2023
M.Sc. (Hons.) Mathematics + B.E. (Hons.) Electrical & Electronics Engineering	CGPA: 7.83/10
<b>Blue Bells Model School, Gurgaon</b>	2017 - 2018
Class XII CBSE	Percentage: 94.8%
<b>Blue Bells Model School, Gurgaon</b>	2015 - 2016
Class X CBSE	CGPA: 10/10

## PUBLICATIONS

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- *Sahil Yadav*, Aryan Mehra, Honnesh Rohmetra, Rahul Ratnakumar, Pratik Narang. **DerainGAN: Single Image Deraining Using Wasserstein GAN**. Accepted at *Multimedia Tools and Applications*, Springer
- T. Miener, R. Lopez-Coto, J. L. Contreras, J. G. Green, D. Green for the MAGIC Collaboration, E. Mariotti, D. Nieto, L. Romanato, and *S. Yadav*. **IAC event analysis with the MAGIC telescopes using deep convolutional neural networks with CTLearn**. Accepted at *Astronomical Data Analysis Software and Systems (ADASS) XXXI*

## INTERNSHIPS

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| <b>Porter, Bangalore - Business Strategy Intern</b>  | Spring 2023 |
| <b>Guide:</b> Ayush Raizada, Financing Lead  |             |
| · Working to build metrics to track partner loans and suspensions                          |             |
| · Creating pipelines to keep a check on loan defaulters via data from Metabase             |             |
| · Initiating the vehicle branding project to supplement partner revenue streams            |             |
| <b>Zepto, Mumbai - Data Science Intern</b>   | Summer 2022 |
| <b>Guide:</b> Abhinav Unnam, Data Science Lead   |             |
| · Built a surge pricing model for delivery based on customer traffic and rider supply      |             |
| · Gathered and cleaned order, traffic and rider data from Redshift and Mixpanel            |             |
| · Worked closely with Marketing and Product teams to ensure a smooth launch                |             |
| <b>Pixis AI, Bangalore - Data Science Intern</b>   | Fall 2021   |
| <b>Guide:</b> Vivek Vichare, Data Science Head   |             |
| · Used Google Ads API and NLP models to generate brand keywords and reduce noise           |             |
| · Collected and cleaned video & channel metadata from YouTube API to find suitable targets |             |
| · Created a relevance score model to rank order videos for each brand based on keywords    |             |
| <b>Google Summer of Code (GSoC) 2020 - OpenAstronomy</b>                                   | Summer 2020 |
| <b>Guide:</b> Tjark Miener, Universidad Complutense de Madrid, Spain                       |             |
| · Project aims to enable ROOT Input in the CTLearn library on gamma-ray data from IACTs    |             |
| · Reading data from MAGIC and VERITAS telescopes into the CTA Data ML format               |             |
| · Implementing deep learning models to improve event reconstruction and classification     |             |

**Guide:** Dr (Cdr) Arnab Das, Director MRC

- Using Deep Learning algorithms to predict path of vessels in the Indian Ocean Region with AIS data
- Perform Anomalous behaviour detection and Marine Protected Areas risk assessment
- Provide changes to traffic lanes by analysing marine mammals sightings

## RESEARCH PROJECTS

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**CTLearn** *Gamma-ray showers*

Winter 2022

**Guide:** Tjark Miener, Universidad Complutense de Madrid, Spain

- Part of my masters thesis to improve gamma-ray event reconstruction
- Used Hillas parameters in a neural network to help in background rejection of cosmic rays
- Augmented the existing RNN and Thin-ResNet models to refine results

**DerainGAN: Image Deraining Using Wasserstein GAN - *Computer Vision***

Winter 2019

**Guide:** Prof. Pratik Narang, BITS Pilani

- Project aims to clean images degraded by rain drops/streaks effectively
- Implementing a Wasserstein generative adversarial network using Pix2Pix as a motivation
- Using perceptual loss function to enhance performance of discriminator

**Solar Flares & other Ionospheric Disturbances Detection - *SARA SuperSID***

Fall 2019

- Applying Machine Learning methods to predict and classify solar flares and ionospheric disturbances
- Predictions are based on data provided by SWPC GOES X-Ray Flux
- Automated data collection from loop antenna using SID software and Python

**Spam Classification on Different Languages - *Natural Language Processing***

Spring 2019

- Implemented Naive-Bayes classifier and CountVectorizer on SMS Spam dataset
- Extended the algorithm to a mix of different languages as a step towards a universal classifier

## VOLUNTEER WORK

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- **LIGO-India Exhibition:** Volunteered for a week at the National Science Center, New Delhi at the Vigyan Samagam 2020 to raise awareness in general public and students about the LIGO-India project in Maharashtra.

## SCHOLASTIC ACHIEVEMENTS

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- Awarded **Merit-cum-Need(MCN) scholarship** by BITS Pilani for extraordinary academic performance.
- Ranked in **National Top 2%** (amongst 1,200,000 candidates) in JEE Mains Examination 2018
- **School Topper** in Computer Science, XII CBSE Board Examinations 2018

## EXTRA-CURRICULAR

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- **Behind the Buck Pass, Fansided:** Writing NBA analytics pieces for the Milwaukee Bucks page
- **Bedrock 2019, E-week:** Beat 10 other teams competing to manage a restaurant for an entire day in an event organised by the Center for Entrepreneurial Leadership, BITS Pilani
- **Tabla Player:** Learned Tabla for 2 years. Participated in the **World Cultural Festival 2016**
- **NCC Cadet:** Received A grade certificate for 2 years rigorous training and 10 days winter camp