

# Rishav MUKHERJI

Mumbai/India

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GitHub



LinkedIn



Website

## EDUCATION

### BITS-Pilani, K.K. Birla Goa Campus

2020 - Ongoing

B.E. ELECTRONICS & COMMUNICATION

MINOR IN DATA SCIENCE

- Current CGPA - **9.29**
- Top 2% in the institute
- Recipient of 4 consecutive BITS Goa Merit Scholarships

## EXPERIENCE

### • Serre Lab, Brown University Website

2022 - Ongoing

RESEARCH INTERN

Exploring and understanding generative modelling, particularly **diffusion models**, to work towards **few-shot / one-shot generation**.

Supervised by **Dr. Victor Boutin**

### • CLSNet Lab, BITS Goa Website

2022

UNDERGRAD STUDENT RESEARCHER

Developing models for carrying out **Code Search** and **Duplicate Detection** in **Python, Java** and **C/C++** source code

Supervised by **Dr. Swati Agarwal**

### • CSIR - CEERI, Chennai

2022

RESEARCH INTERN

Working on **Image and Video Enhancement and Scaling** for Remote Photoplethysmography (**r-PPG**) for more accurate long distance inferences

Supervised by **Dr. Madan Kumar Lakshmanan** and **Dr Amalin Prince A.**

### • Wingify

2022

MACHINE LEARNING INTERN

Working on **Image to Image Translation** using **Generative Adversarial Networks** as well as **2D - 3D human pose manipulation** for health and lifestyle applications

Supervised by **Paras Chopra**

## PROJECTS

### • Comparative study of Machine Learning techniques in Computer Vision GitHub

2021

INDEPENDENT PROJECT

Built supervised (**ResNet**), semi-supervised (**Vanilla CNN** with **pseudo labelling**) and unsupervised (**SimCLR**) models to carry out classification on STL-10 dataset and compared their functionality and effectiveness based on various parameters.

### • Natural Language Inference and Probing GitHub

2021

INDEPENDENT PROJECT

Trained a **BiLSTM** Classifier on SNLI dataset to carry out inference and then analysed the model by carrying out probing based on **POS tags**

### • VFormer GitHub

2021 - Ongoing

CLUB PROJECT, SAIDL

A **PyTorch** library that packages implementations of different kinds of **ViTs** and methods to visualize their attention maps, and provides an **easy-to-use API**.

- **Exploring Deep Learning models for Visual Saliency Prediction** [GitHub](#) 2022 - Ongoing  
CLUB PROJECT, SAIDL  
Implementing and bench-marking DeepGaze models. Exploring where these models fail and propose possible solutions.
- **Developing ML-DL models for IoT-based applications** 2022  
SUPERVISED PROJECT  
Setting up a LoRaWAN based IoT network for emergency messaging system and then using various ML-DL techniques to optimise the network and utilise it for wider purposes

## COURSE WORK

<b>ACADEMIC</b>	Computer Programming   Linear Algebra   Calculus   Probability & Statistics   Meta Learning *   Control Systems   Applied Statistical Methods   Foundations of Data Science   Digital Signal Processing
<b>ONLINE</b>	<b>University of Michigan:</b> Python 3 Programming Specialization   <b>Stanford University:</b> Machine Learning   <b>Udacity:</b> Intro to Deep Learning with PyTorch   <b>NVIDIA:</b> Fundamentals of Deep Learning   <b>DeepLearning.AI:</b> NLP Specialization   <b>NVIDIA:</b> Building Transformer-Based NLP Applications   <b>Stanford University:</b> CS231n   <b>University of Toronto:</b> Visual Perception for Self-Driving Cars   <b>University of Toronto:</b> State Estimation and Localization for Self-Driving Cars

## TEACHING EXPERIENCE

- **Introduction and Applications of Machine Learning** Nov 2021 - Jan 2022  
INSTRUCTOR, CENTER FOR TECHNICAL EDUCATION, BITS GOA [WEBSITE](#)
- **Natural Language Processing** March 2022 - Ongoing  
MENTOR, CENTER FOR TECHNICAL EDUCATION, BITS GOA [WEBSITE](#)

## SKILLS

<b>PROGRAMMING LANGUAGES</b>	<b>Experienced:</b> Python   C++   C <b>Familiar:</b> Julia   Java   HTML   CSS
<b>FRAMEWORKS</b>	PyTorch   Keras   Scikit-learn   Tensorflow
<b>LIBRARIES</b>	Numpy   Pandas   OpenCV   Matplotlib
<b>TOOLS</b>	GIT   Arduino IDE
<b>LANGUAGES</b>	English   Hindi   Bengali

## COMMITTEES

- **Society for Artificial Intelligence and Deep Learning** [General Secretary] [Website](#)  
A non-profit, professional group of motivated individuals based out of BITS Pilani, working on research and application of Artificial Intelligence and Deep Learning.
- **Language Research Group** [Core Member] [Website](#)  
Language Research Group (LRG) is a student-run Special Interest Group at BITS Pilani, Goa Campus. The group aims to study the theoretical and practical underpinnings of all things related to language, with a strong focus on inculcating the tools of research and experimentation in its methodologies to discover what lies underneath language.
- **Electronics and Robotics Club** [Member] [Website](#)  
The Electronics and Robotics Club (ERC) of BITS Goa is a diverse group of students with interests ranging from electronics to machine learning to mechanical design.
- **SEDS Celestia** [Core Member]  
SEDS Celestia is the Astronomy and Astrophysics club of BITS Pilani, K. K. Birla Goa Campus under the parent organization of SEDS India (which in turn is a chapter of the international SEDS organization)
- **IEEE BITS Pilani Goa Student Branch** [Core Member]  
The IEEE student branch is a local chapter of the international IEEE organisation which functions with the aim to promote studies in various technological fields.