Name: Shrey Bipinkumar Shah · **shreybshah.97.ss@gmail.com** · Ph: +91 7240466959

Shrey Bipinkumar Shah

- Objective: Seeking admission to a graduate degree during the fall 2022 intake period.
- Degree: B.E.(Hons) in Computer Science, M.Sc. in Biological Sciences.
- Skills: Python, Keras, Docker, Kubernetes, MERN Stack, Java, Golang
- Interests: Computer Vision, Artificial Intelligence, Machine Learning, Software Engineering
- Website: https://shreyshah97.github.io/

Education

2015 - 2020 **M.Sc. Biological Science and B.E. (Hons.), Computer Science** BITS Pilani

- Completed my undergraduate thesis on Lung Cancer Detection using CT Scan Images at Hiroshima University as an exchange student.
- Recipient of the Merit scholarship awarded by BITS to top 2% students across campus
- CGPA - 9.33
- Relevant Coursework: Machine Learning · Data Structures and Algorithms · Object Oriented Programming · Database Management · Operating Systems · Computer Architecture · Theory of Computation · Neural Network and Fuzzy Logic · Discrete · Structures Microprocessor & Interfacing · Principles of Programming Language · Design and Analysis of Algorithms · Computer Networks · Cryptography · Compiler Construction

2014 - 2015 **ISC - Indian School Certificate, Grade XII** Zydus School

- Passed with Distinction with 95%, ranked #3 in school

Publication

April 2020 **Transfer Learning by Cascaded Network to Identify and Classify Lung Nodules for Cancer Detection.** Hiroshima University

- Completed my undergraduate thesis at Pattern Recognition lab, Hiroshima University under Dr. Takio Kurita from August'19 to December'19.
- Developed a cascaded architecture, where a U-Net based segmentation network, performed as a screening network to identify nodules from CT scan images and the suspected nodule images were sent to a classifier model to identify malignant nodules.
- The model surpassed the accuracy rates of the then existing cancer nodule detection models for lung CT scan images. Work was accepted as a conference paper in IW-FCV 2020 which was later published in Springer.
- URL : https://link.springer.com/chapter/10.1007/978-981-15-4818-5_20

Work Experience

Jan/'20 - Present **Member of Technical Staff** Nutanix Inc.

- Working with the Microservices Platform Team to help onboard the nutanix services and microservices on the Kubernetes based platform.
- Worked on various tasks and projects in different programming languages like python and golang which I have led end-to-end and fully owned.
- Various projects such as logging tool implementation, image placement on the clusters, vm networking, multipath supports for storage interactions, etc have been successfully finished within the time constraints.

May/'19 - July/'19 **Machine learning Intern** JP Morgan Chase

- Trained various models with different algorithms, compared the accuracy and tuned the hyperparameters for best results.
- Publicly available dataset from yahoo finance and internal dataset from JPMC was used for the training purpose.
- Created a GUI for enhanced user interaction for the same using tkinter library in python.

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Projects

Jan/'19 - Apr/'19 **Diabetic Retinopathy Detection using Fundal Images**

- CNN Architecture was modelled, trained and tested for the task. The initial model gave a 5 class classification accuracy of 73%.
- Applying different methods to deal with the bias of the dataset like data augmentation and ensembles increased the 5 class classification accuracy to 81% while the state-of-the-art classification accuracy was 85%.

Jan/'19 - Apr/'19 **Target Detection using EEG Signals**

- Detected p300 peaks obtained in the EEG signals of the brain. ConvLSTM model was used to identify and classify the peaks into p300 and non-p300.
- Tried various methods to reduce the bias of dataset eventually leading to a better model accuracy over the one mentioned in the research paper being emulated.

Oct/'18 - Dec/'18 **Lung segmentation from CT scan images**

- Lungs were detected in CT Scan Images, training data used was CT scan images and hand labelled masks to identify the lungs.
- U-net type architecture was trained on the masked images using dice coefficient as loss function owing to imbalance in masks (small lung masks as compared to the full image). The final model had a dice coefficient of 92%

Oct/'18 - Dec/'18 **Race Prediction from facial Images**

- 2 Models were used to predict the race of the person from the facial Images cropped and centre: Transfer Learning model pre-trained on ImageNet dataset and a Deep Learning model trained from scratch on UTKFace dataset. Compared the accuracy and training time for both the models.
- Transfer Learning model was 78% accurate in 5 class classification of faces while the Deep Learning model was 74% accurate and the Transfer learning model took almost 1/4th time to train.

Apr/'18 - May/'18 **Neural Network construction in Scala**

- As a part of the course Principles of Programming Language, had to implement a two layered convolutional neural network.
- Convolutional, pooling, activation and normalization layers were implemented in scala from scratch.

Mar/'21 - Jul/'21 **Walking Buddy - Web Development Project**

- Designed a website where one can register as a walking buddy by choosing a time slot and place or view other people to team up with for a particular time slot and place.
- Learned Javascript and various libraries like ReactJS and ExpressJS for the front-end develpoment while backend was done in Java springboot.

Position of Responsibility

Mar/'17 - Dec/'17 **Coordinator, Gaming Club BITS Pilani**

- I worked as a coordinator for the event Ignition in BOSM 2017 which saw the participation of over 200 students and lasted over 4 days

Scholarships

- INSPIRE Scholarship by Govt.of India (awarded to top 1% Sciences UG students).
- Merit Scholarship by BITS Pilani (awarded to top 2% students across campus).
- Jasso Scholarship awarded by Japan Student Services Organization for attending an exchange program at the Hiroshima University