Aadish Jain
Computer Science & Engineering
Indian Institute of Technology Bombay

190050001
B.Tech.
Gender: Male
DOB: 29-11-2001

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2023	
Intermediate	CBSE	Arcadia Academy	2019	93.00%
Matriculation	CBSE	Arcadia Academy	2017	10

Pursuing **Honors** in **Computer Science** and **Minor** in **Applied Statistics And Informatics**

Scholastic Achievements

- Secured **All India Rank 25** among more than 0.2 million students in IIT JEE-Advanced *(2019)*
- Secured **All India Rank 87** among 1 million students in JEE-Main conducted by NTA *(2019)*
- Secured **All India Rank 223** among more than 50,000 students in the prestigious Kishore Vaigyanik Protsahan Yojana(KVPY) examination in SA stream conducted by IISc Bangalore *(2018)*
- Awarded the prestigious National Talent Search Examination(NTSE) scholarship by the Government of India and stood among the **top 1000 students** from 1 million students *(2017)*
- Ranked among **National Top 1%** in prestigious NSEP & NSEC conducted by HBCSE *(2018)*

Internships

Octro Inc. *Summer 2021*
Data Science Intern

- Implemented **Deep Reinforcement Learning algorithm DQN** to personalize user notifications of Poker mobile app to increase the click-through rate from 16% to **89%** in simulated environment
- Extended **MCCFR** algorithm to 6 players to determine the Nash Equilibrium Strategy in a game of Poker, which is to be further used in **AIVAT** algorithm to predict the player proficiency
- Implemented **LightGBM in Decision Trees** to predict player strategy achieving an F1-Score of **0.63**

vCreaTek Consulting Services Pvt. Ltd. *Winter 2020*
Research Intern

- Developed an end-to-end solution for **Table Entailment** as a task for **SemEval'21** using **TAPAS** model and achieved 2-way **F1 Score of 71.72**, 3-way **F1 Score of 65.59** and ranked **8th** internationally
- Created a **Relevancy Detection Module** for deduction of table cell contribution using the **AlBERT model** for evidence finding with an **accuracy of 93%** and an F1-score of 0.68
- Completed coursework on Recurrent Neural Networks, Deep Learning and Attention Mechanism

Publication

AttesTable at SemEval'21 Task 9: Statement Verification and Evidence Finding with Tables
aclweb: *Harshit Varma,* ***Aadish Jain****, Pratik Ratadiya, Abhishek Rathi*

Key Projects

Edge Detector and Background Subtractor *Spring 2021*
Course Project | Prof. Ajit Rajwade

- Developed an **Edge Detector** in spatial domain and **Background Subtractor** in temporal domain
- Improved the existing gaussian models for noise by modelling the intensity differences as being derived from a **Skellam Distribution** and implemented an algorithm exploiting this property
- Comparison with SOTA algorithms like Canny Edge Detection showed better results in **60%** cases
- Implemented a novel approach for generation of random noisy images and videos for output testing

Robust Video Denoising using Low Rank Matrix Recovery *Spring 2021*
Course Project | Prof. Ajit Rajwade

- Implemented an algorithm using MATLAB to denoise videos with multiple sources of noise, with no assumptions on their distributions using **low rank matrix recovery** methods
- Employed a 3-step hierarchical search algorithm to find a set of patches similar to a reference patch
- Achieved a **PSNR** of **24.87** when the image contained mixture of noises with 30% impulse noise, gaussian noise with $\sigma = 20$, and shot noise with $\kappa = 5$ which is comparable to the existing algorithms

Review Sentiment Classifier *Winter 2020*

Self Project

- Developed Sentiment Classification system for IMDb Movie Reviews using **Keras framework**; analysed more than 10,000 reviews and achieved an **accuracy of 88.73%**
- Implemented **Bidirectional LSTMs** with Flatten and Dropout Layers; used **GloVe Word Embeddings** (200-D); analysed data using **Word Cloud visualisation** for all types of reviews

Fake News Classifier *Winter 2020*

Self Project

- Developed a content based Fake News Classifier in PyTorch framework using data of 1000+ news articles and achieved an **accuracy of 85.84%** on test data
- Implemented **Sequence Modelling** using Bidirectional LSTMs with Linear and Dropout Layers

Other Projects

Bash Debugger *Autumn 2020*

Course Project | Guide - Prof. Amitabha Sanyal

- Developed a Terminal based Code Debugger for Bash programs in python language to help user interactively debug sections of code using breakpoints placed by user

Movie Recommender System *Summer 2020*

Online Course Project | Machine Learning

- Trained a content based Movie Recommender system using **Collaborative Filtering** and predicted movie ratings from 0 to 5 stars using data of around 10000 movies achieving an accuracy of **83%**

Institute Technical Summer Project *Summer 2020*

App Development Project | Guide - Sudhanshu Sahil

- Developed an **Android Application** using Java in Android Studio to connect students who want people for a project with those having required skills

Basic Image Processing and Graph Plotting *Autumn 2020*

Course Project | Guide - Prof. Amitabha Sanyal

- Used the **Kmeans++** algorithm and the python SciPy Library to smoothen high contrast images

Positions of Responsibility

Teaching Assistant | Linear Algebra

Prof. Dipendra Prasad *Spring 2021*

- Responsible for conducting regular theory and doubt clearing sessions for a batch of 43 students
- Assisted professor in day-to-day academic activities and evaluating the students' answer scripts

Teaching Assistant | Computer Programming and Utilization

Prof. Bhaskaran Raman *Autumn 2020*

- Mentored 11 First year undergraduate students and catering to student's course related queries
- Worked with instructor in-charge to organize online labs, tutorials and examinations

Technical Skills

- **Languages**: C, C++, Java, Python, MATLAB, Bash, Octave, HTML, CSS, JavaScript, LaTeX
- **Softwares & Packages**: TensorFlow, Bootstrap, PyTorch, Angular, Django, Keras, OpenCV

Courses Undertaken

Computer Science	Advanced Image processing, Design & Analysis of Algorithms, Computer Networks + lab, Data Structures & Algorithms, Data Analysis & Interpretation
Ongoing Courses	Operating Systems + lab, Artificial Intelligence and Machine Learning + lab, Foundations of Intelligent and Learning Agents
Statistics	Probability Theory, Applied Stochastic Processes, Linear Algebra, Calculus

Extra Curricular Activities

- Active Competitive Programmer with **Codechef** rating **1827** and **Codeforces** rating **1606**
- **Mentored 25 students** of class 11^{th} & 12^{th} in their JEE preparation under CovEd India *(2020)*
- Completed 80 hours under **National Service Scheme**, IIT Bombay under **Educational Outreach** program serving underprivileged students of class 5^{th} to 8^{th} *(2019-20)*
- Stood **2**nd among 300 participants in **State level Science Model Competition** *(2014)*
- Secured **1**st **position in District level cricket tournament** competing with 20 schools *(2013)*