SHREYA LADDHA

Second year undergraduate

IIT Bombay, India

(+91) 9664376554 | 2000sladdha@gmail.com | www.laddhashreya2000.github.io | laddhashreya2000 | shreya-laddha

Education

Indian Institute of Technology, Bombay — *CPI - 9.09*

B.Tech in Electrical Engineering with Minor in Computer Science and Engineering — *2018 - 2022*

S.J. Public School, Jaipur — *96.4 %*

Intermediate/+2 — *2018*

Maheshwari Girls Public School, Jaipur — *10 CGPA*

Secondary School (CBSE) — *2016*

Work Experience

Paxis Business School — *Work From Home*

Natural Language Processing Research Intern — *May 2020 - Present*

- Designing a system which groups customers having similar opinions on different product features based on their reviews
- Developed feature extraction pipeline using techniques like tokenization, association rules mining and pruning
- Currently working on opinion mining and sentiment analysis pipeline using VADER

Avrio Energy Pvt. Ltd. — *Work From Home*

Python / Firmware Development Intern in Electronics — *May 2020*

- Explored libraries like spidev, pigpio, bcm2835 and gpio for establishing SPI communication on Raspberry Pi using GPIO (non-SPI) pins
- Successfully established I2C interface between RPi and ADE7880 using python libraries and learned about HSDC interface of ADE7880

Edelweiss Financial Services Ltd. — *Mumbai*

Data Analytics Intern — *Dec 2019*

- Acquired knowledge about credit analysis of loans especially SME Business Loans while working with a team of 15+ members
- Analysed banking and financial details provided by the customers and developed 600+ features to be used by loan default prediction model

Projects

PathFinding.js — *Microsoft Engage 2020*

Mars Colonization Program — *Jun 2020 - Jul 2020*

- Designed a webapp to find the shortest path from the rover to the destination in a grid using different path finding algorithms
- Implemented algorithms like A*, IDA*, Breadth First Search, Best First Search and Jump Point Search for searching path
- Introduced features like multiple destinations, dynamic node size, dynamic statistics and a rover race

Fake News Classifier — *IIT Bombay*

Course Project - ML for remote sensing — *May 2020 - Jun 2020*

- Built neural network architecture as backbone from scratch using LSTM and CNN in Tensorflow
- Created the training dataset using datasets from diferent sources like Kaggle and cleaned it using NLTK and Regex library
- Used Glove google API as pre-trained word embedding for the model and achieved 90% accuracy on US election dataset

Machine Learning and Deep learning — *IIT Bombay*

Summer of Science — *Summer 2019*

- Studied and designed logistic and linear regression models for house price prediction and flight delay prediction in Julia
- Implemented Deep Learning algorithms like Auto Encoders, RBMs, CNN, ANN, RNN and SOM using Keras and PyTorch
- Developed algorithms such as movie recommendation, fraud detection, multi-class image recognition and stock price prediction systems

Advitiy: Communication Subsystem — *IITB Student Satellite Program*

Advitiy is the next step after Pratham: first student satellite of IIT Bombay — *Feb 2019 - Jun 2019*

- Developed Link Budgets for Uplink, Downlink, and Beacon of the satellite after studying similar link budgets for various past successful missions
- Determined the Modulation Methods and System Baud Rate to be used for communication by analyzing link margins at different Bit Error Rates
- Identified concerns related to defining Noise Temperatures, threshold Signal-to-Noise Ratio and various types of Link Margins
- Successfully received SSTV images broadcasted from ISS and APT weather satellite images from NOAA satellite using a handheld receiver

Sanket: Auxiliary System

IITB Student Satellite Program

Sanket is a cubesat mission to be flown on PSLVStage 4 Orbital Platform — *Jul 2019 - Present*

- Proposed and analyzed Inflatable Antenna Systems as a technology demonstration payload for the mission
- Scrutinized feasibility of different payload ideas under aspects like accessibility to technology and system-level constraints provided by ISRO
- Selected components like LNA and circulator to be used on board by analysing their properties according to the mission requirements
- Designed PCBs using Eagle CAD for the antenna deployment system and the peripheral circuit of a single-chip transceiver CC1125

AquaGerator

ITC, IIT Bombay

Institute Technical Summer Project — *Summer 2019*

- Designed an autonomous system that converts water vapour present in the atmosphere into water inside an airtight and insulated container
- Explored thermodynamics of water in order to select appropriate equipment to implement the mechanical refrigeration cooling system
- Conducted experiments and generated 5-7 litres of water in over 20 hours and presented the prototype in front of 300+ people

Positions of Responsibility

Subsystem Head, Communication Subsystem

IIT Bombay

IITB Student Satellite Program — *Jan 2020 - Present*

- Lead a team of 10 members to develop quality assured communication subsystem of satellite
- Executed a three stage recruitment process to test the technical skills, practical approach and team work of the applicants; selected 8 out of 50+ candidates

Events Coordinator, Robowars

IIT Bombay

Techfest: Asia's Largest Technical Fest — *Jan 2020*

- Involved in execution of India's Largest International Robowars with a budget of over 4 Million with a footfall of over 175k people
- Addressed and managed 100+ participants from 10+ International teams and 30+ Indian teams for smooth conduct of the events
- Lead a team of 10+ organizers responsible for the planning and successful execution of 280+ events in the fest

Skills

Languages	English, Hindi, Korean (Beginner)
Programming	Python, Embedded C, C++, Javascript, Java, MySQL, Julia
Frameworks	Ionic, Node.js, Tensorflow
Design Softwares	SolidWorks, EAGLE, AutoCAD
Miscellaneous	Proteus, Unity, Quartus, ArduinoIDE, Ngspice, MATLAB, GitHub, GNUplot, SDR Console, Saturn PCB Toolkit, Xcircuit, LaTeX

Relevant Courses

Electrical	Electronic Devices & Circuits, Data Analysis and Interpretation, Analog Circuits, Digital Systems, Signals & Systems, Electrical Machines & Power Electronics, Network Theory
Computer Science	Logic for Computer Science, Data Structures and Algorithms, ML for Remote Sensing-I
edX	Computer Vision and Image Analysis, Data Science and Machine Learning Capstone Project, Applied Deep Learning Capstone Project
Udemy	Deep Learning A-Z: Hands on Artificial Neural Networks

Extracurricular Activities

Sports

- Completed 80 hours of training in Chess under the National Sports Organisation
- Awarded the Best Chess Player of the year (2014-15) Award in the school

Technical

- Cleared Stage 1 (rank 164 out of 6061 teams) of Flipkart's Grid 2.0 Hackathon to design autonomous pick and drop robot
- Developed a logic circuit to display a smiley face on 8*8 LED Matrix using counters and decoders
- Designed and tested an autonomous Line Follower bot using Arduino and IR sensors
- Designed a Xyloband to synchronize flashing of LEDs with input from a microphone
- Made a bluetooth controlled obstacle maneuvering bot with differential mechanism in XLR8 2018
- Participated in RC Plane competition and learned about flight control and dynamics

Miscellaneous

- Presented Pratham and Advitiy as a member of Student Satellite Team during ITC expo in front of 300+ people
- Hosted the School Annual Function 2016, SJPS in front of an audience of 250+ people
- Mentored a team of four members in XLR8 2019 to successfully make a bluetooth controlled bot