

# ABEEN BHATTACHARYA

An Undergraduate Senior at **IIT-Bombay**

**Email — GitHub — Website**

## WORK EXPERIENCE

---

**Software Intern**  
**Honeywell**

June 2020 - Present  
*Software Development*

- **Implemented three projects** based on a combination of **ReactJS & NodeJS** singlehandedly
- **Designed a cloud-based portal** for a Remote Viewer Application to **remotely access, manage and control** devices to **quickly resolve software issues**, eliminating transport logistics & costs
- **Created** the Remote Viewer application and integrated it with a **Device Manager Dashboard** with additional features for **tracking** the device **location, performance & alerts** for **maintenance**
- **Developed a server-based License Manager** portal for **administration** of licenses of **every proprietary software** including **components** to **import, return & install bundles** of licenses

**Data Science Intern**  
**Kalpataru Group**

May 2019 - June 2019  
*NLP & Deep Learning*

- **Built** a machine learning model, using TensorFlow for the purpose of Employee Attrition Analysis, **designed a Recurrent Neural Network [RNN]** model with a **Long Short-Term Memory [LSTM]** unit for **Sentiment Analysis** of **employee reviews** to include it as a **feature**, and used **Random Forests** for **Feature Selection** from the various datapoints collected to train the model
- Developed a **Conversational Chatbot** using **Natural Language Processing & Deep Learning**, identified **intents, entities & dialogs** for the use cases & **trained** the bot using the same and implemented many of the **300+ use cases** of the bot, using **Microsoft Azure** for its development

## TECHNICAL PROJECTS

---

**Reading Comprehension for Open-Domain Question-Answering**  
*Neural Networks and Deep Learning*

July 2019  
*Celebal Technologies*

- Built a **Neural Network**, which can answer questions pertaining to a given comprehension of text
- Researched various pre-existing Neural Networks and Models: **DrQA, BERT, BiDAF & XLNet**
- Implemented Google Brain's **QANet**: Combining Local Convolution with Global Self-Attention for Reading Comprehension in **TensorFlow** and developed a **real-time demo** for it using **ReactJS**
- Obtained an EM Score of **70.4** and a F1 Score of **79.6** on the Stanford Question Answering Dataset

**Mood Indigo Website and Native Application**  
*Development*

July 2018 - December 2018  
*Mood Indigo, IIT Bombay*

- Built the frontend of the website using **ReactJS** which also includes **HTML, CSS** and **Typescript**
- **Designed and developed an entire website: Mood Indigo Blogs** using **Django** single-handedly
- Added **multiple animations** to the website using **Jquery** for a vivid and exciting user experience
- Created a **Native Application** using **React-Native** which had **5000+** downloads after its release

**Inter-IIT Tech Website**  
*Web Development*

September 2018 - December 2018  
*Institute Technical Council, IIT Bombay*

- Co-ordinated within a **3-member** team responsible for the website of the Inter-IIT Tech Meet 2018
- Developed and deployed the website using **Jekyll** and a nice blend of **HTML, CSS** and **Javascript**
- Every line of code was **reviewed** multiple times and **perfected** before being pushed to production

**Other Projects include an internship at GTarang Energy Solutions** (*based on Web Development*), a **Seminar based on Spintronics and MRAM** (*MM396 Seminar Course*), a **Chain Reaction Game** (*CS101 Course Project*), a **Data Analysis & Interpretation Project** (*MM217 Course Project*), a **Walking Stick for Blind Men** (*NSS Course Project*), and a **Material Study: Disassembly of a Dash Charger** (*MM152 Course Project*) among many more

## SCHOLASTIC ACHIEVEMENTS

---

- Ranked amongst the top **0.6%** out of 1.5 million candidates in the JEE Mains Exam held in 2017
- Ranked in the **99th percentile** out of 2,20,000 candidates in the **JEE Advanced Exam** of 2017
- Scored **800/800** in **SAT Subject Test: Mathematics Level 2**, **780/800** in **SAT Subject Test: Physics & 790/800** in **SAT: Mathematics** & in the **99th** percentiles in all the three tests
- Attained a score of **170/170** in **GRE: Quantitative Reasoning** and **159/170** in **GRE: Verbal Reasoning**, ranking in the **99th** and **83th** percentiles respectively, resulting in a **total of 329/340**

## LEADERSHIP & ORGANIZATIONAL EXPERIENCE

---

### Manager

Web and Coding Club, IIT Bombay

April 2019 - Present

*Institute Technical Council*

- **Led** a team of **20** sophomores, part of one of the **biggest college technical clubs** in India, to **cultivate** and **sustain** a hobbyistic **programming culture** and conduct activities in the institute
- **Developed** a Web and Coding Blogs website **singlehandedly** to **connect aspiring students** with various **experiences of successful developers** and help them **learn** from their **mistakes**
- Guided **100+** students in making their first app using **Scratch** and conducted the **Git/GitHub**, **Machine-Learning** and **Android** workshops to introduce students to the basics of programming
- One of the Founding Members of **DevCom** - a developers' community to guide students who are getting started with **Open Source Development** & to inculcate great coding habits within them
- Ideated & conducted events of various sub-groups in WnCC like **GSoC Incubation Cell**, **Competitive Coding** & **Blockchain@IITB**, introducing students to different spheres of programming
- Maintained and updated WnCC's **Website**, **Wiki**, **Internship Portal** and **InstiApp** amongst other resources regularly and keeping it up-to-date for an exciting and vivid experience for the user

### Web and Design Secretary

Department of Metallurgical Engineering and Materials Science

July 2018 - April 2019

*IIT Bombay*

- **Coordinated** with a team of **14** students responsible for all the **proceedings** of the Department
- Responsible for **maintaining** the Department **Website** & updating the website on a regular basis
- **Created** and **managed online elections** for all posts in the department using Gymkhana portal
- **Designed** the posters for every event, and created the design of the department hoodies and tshirts

## MISCELLANEOUS

---

- **Mentored 150+** students at Codecamp, a **Python, HTML5 & PHP** hackathon conducted by CodePrompt in collaboration with Web and Coding Club, IIT Bombay for students across Mumbai
- **Line follower & Maze runner bot**: Built a micro controller processed autonomous bot which follows a line on a surface and solves a maze using infrared and ultrasonic sensor, based on Arduino
- **XLR8 2017** : Constructed a robotic car for a racing competition using Arduino Uno for its functioning, L293D motor driver for control and a HC-05 bluetooth module for wireless communication
- **Guided** a group of 4 students for building their remote controlled bot successfully in **XLR8 2018**
- **Shot and edited** a Music Video Entry for Arcade Competition '17 which bagged the **5th position**
- **Designed** the **Logos**, **T-shirts** and **Hoodies** for the Institute Technical Council of IIT Bombay

## TECHNICAL SKILLS

---

**Programming:** Python, C/C++, Java, MATLAB, GNU Octave, Bash, HTML, CSS and JS

**Libraries :** PyTorch, Keras, Tensorflow, OpenCV, ReactJS, Scipy, Seaborn and Numpy

**Softwares :** Vim, Git, GitHub, Anaconda, L<sup>A</sup>T<sub>E</sub>X, Jupyter, Origin, AutoCAD & SolidWorks

**Online Courses:** Machine learning - Stanford, Probability and Statistics - MIT, Data Structures & Algorithms - Stanford, Cryptography - Stanford and Databases - IBM