

ABEEN BHATTACHARYA

Digital Consultant at Accenture Japan
Bachelor of Technology, IIT Bombay '21

WORK EXPERIENCE

Digital Technology Consultant
Accenture Japan, Tokyo

October 2021 - Present
Software Development

- Work in partnership with various **Fortune 100** clients to improve the **structure** and **efficiency** of **software** and **IT systems** to **digitally transform** their organisation and satisfy their business vision and objectives
- **Design solutions** that will form the core of the enterprise architecture, **leveraging technologies** like AI/ML, Robotics, IoT & Big Data and **implement** them with agility to achieve our clients' business goals

Software Intern
Honeywell

June 2020 - July 2020
Software Development

- Received a **Letter of Recommendation** for **single-handedly** completing **three** projects in two months
- **Designed** a **cloud-based portal** for a Remote Viewer Application to **access, manage and control** devices to remotely **resolve software issues** and consequently eliminated the transport logistics & costs
- Created the Remote Viewer application and integrated it with a **Device Manager Dashboard** with additional features for **tracking** the device **location**, and **performance** with alerts for **maintenance**
- Developed a **License Manager** portal for **administration** of licenses of **every proprietary software** on a single cloud-based platform with components to **import, return and install bundles** of licenses
- Implemented all projects on **React.js** and **Node.js** with **SCUF UI & Microsoft Azure** for deployment

Data Science Intern
Kalpataru Group

May 2019 - June 2019
Artificial Intelligence

- Received a **Letter of Recommendation** from the Chief Information Officer [CIO] for commendable work
- Implemented a Machine Learning Model in **Tensorflow** for Employee Attrition Analysis with three **different** methods: **Support Vector Machines, Random Forests Classifier** and **Naive Bayes Net**
- Optimised the models using **Cost Sensitive Classifier** to attain **accuracies** of 88.4%, 85.3% and 86.7%
- Implemented a **Recurrent Neural Network** with a **Long Short-Term Memory [LSTM]** unit **using Keras** aimed at **Sentiment Analysis** of the Employee Reviews to include it as a feature in the ML Model
- Developed a NLP based **Chatbot** with **MS-Azure** and implemented many of the **300+** total use cases

TECHNICAL PROJECTS

Image Caption Generation

Prof. Pushpak Bhattacharyya, IIT Bombay

January 2021 - May 2021

NLP / Computer Vision

- Developed a model to recognize the context of an image and generate an accurate description for the image
- Designed the model using the **Inception v3** model for image-processing and **BERT** for caption-generation
- Augmented the neural network to reach **0.58** in BLEU-1 and **0.56** in BLEU-4 on the **Flickr30k Dataset**

Generative Face Completion

Prof. Amit Sethi, IIT Bombay

August 2020 - December 2020

Image Processing / GANs

- Developed a face completion deep-generative-model using a **Wasserstein** Generative Adversarial Network.
- Trained the model with a combination of a reconstruction loss, two adversarial losses and a semantic parsing loss using the CelebA dataset, which ensured **pixel faithfulness** and **local-global contents consistency**.
- Enhanced the model to reach Structural Similarity Index of **0.78** with a Peak Signal-to-Noise Ratio of **19.7**

InstiApp

Indian Institute of Technology Bombay

April 2019 - May 2021

PWA / Android / iOS

- Led **20+ developers** to create a common platform for student activities using **Django** for backend & APIs, **Angular** for PWA-frontend, **Postgres** for databases & **Android & Flutter** for crossplatform apps
- Enhanced the platform to have **8000+** users with **100%** API test coverage & serve **2,500,000+** notifications
- Developed a **Flutter**-based cross-platform app with real-time updates on events & posts of Institute bodies

Reading Comprehension for Open-Domain Question-Answering
Celebal Technologies

June 2019 - July 2019
NLP / Deep Learning

- Implemented **QANet** using **TensorFlow** aimed at generating answers to any question on any given data
- Designed a **CNN** with convolution & self-attention layered encoder & **BiDAF**'s trilinear attention function
- Achieved **7x faster** training rate & **6x faster** inference rate with **accuracy** equivalent to recurrent models
- Obtained an EM Score of **70.4** and a F1 Score of **79.6** on the **Stanford Question Answering Dataset**

Mood Indigo Website & Native Application

July 2018 - December 2018

Mood Indigo 2018

Web & App Development

- Developed the front-end of the website using **ReactJS** and added a multitude of animations using **Jquery**
- Designed and developed an **entire** website: Mood Indigo Blogs **single-handedly** with the use of **Django**
- Worked on the frontend of the MI App using **React-Native** which had **5000+** downloads after its release

Other Projects include the Inter-IIT Tech Website (*Jekyll, HTML, CSS*), a **Data Analysis & Interpretation Project** (*MM217 Course Project*), a **Seminar based on Spintronics and MRAM** (*MM396 Seminar Course*), a **Chain Reaction Game** (*CS101 Course Project*), a **Walking Stick for Blind Men** (*NSS Course Project*), and a **Material Study: Disassembly of a Dash Charger** (*MM152 Course Project*)

SCHOLASTIC ACHIEVEMENTS

- Ranked amongst the top **0.6%** out of **1.5 million** candidates in the **JEE Mains** Examination held in 2017
- Ranked in the **99th percentile** out of **2,20,000** candidates in the **JEE Advanced** Examination of 2017
- Scored **800/800** in **SAT Subject Test: Mathematics Level 2**, **780/800** in **SAT Subject Test: Physics & 790/800** in **SAT: Mathematics** ranking in the **99th, 82th & 99th** percentiles respectively
- Attained a score of **170/170** in **GRE: Quantitative Reasoning** thereby ranking in the **99th percentile**

LEADERSHIP & ORGANIZATIONAL EXPERIENCE

Manager

April 2019 - May 2020

Web and Coding Club, IIT Bombay

Institute Technical Council

- **Led** 20 sophomores of one of India's biggest programming clubs to enhance the institute **coding culture**
- Co-founded **DevCom**, a society of elite developers handling **6+ institute-wide projects** including **RVP**: Resume Verification Portal, **InstiApp**: a platform for student activities and **Cerium**: SSO based Forms
- Mentored and guided **250+** students to conceptualise and develop their **first application** from scratch
- Conducted **30+** events, workshops & hackathons on different spheres of programming including **Competitive Coding**, **Blockchains** and **Development** to consolidate the **fundamentals of coding** of students
- Developed **10+** resources including WnCC's Website, Wiki, Internship Portal & Blogs and all ITC websites

Web and Design Secretary

April 2018 - May 2019

Department of Metallurgical Engineering and Materials Science

IIT Bombay

- Regulated **all** Department proceedings & handled **1 Million+** INR coordinating with a **14-member** team
- Managed the Department Website built on **Drupal (PHP)** with reach of **850+** incrementing **40%** Y-O-Y
- Created a portal for **online elections** with LDAP-ID based **SSO** login incorporating **secret-ballot voting**
- **Designed** the posters for every event, and conceptualised the design of the department hoodies and tshirts

MISCELLANEOUS

- Mentored **150+** students at Codecamp, a **Python, HTML5 & PHP** hackathon conducted by CodePrompt
- **Line follower & Maze runner bot**: Built a micro controller processed autonomous bot which follows a line on a surface and can solves a maze using infrared and ultrasonic sensor, programmed on Arduino Uno
- Won the **first** prize in an inter-school competition named 'Zenith' based on Data Structures & Algorithms

TECHNICAL SKILLS

Languages: Python, C/C++, Java, MATLAB, git/GitHub GNU Octave, Bash, HTML, CSS and JS
Frameworks: PyTorch, Django, Tensorflow, OpenCV, ReactJS, AngularJS, Drupal and Microsoft Azure