



Sunil Kumar Meena
Computer Science & Engineering
Indian Institute of Technology Bombay

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UG Second Year
Male
DOB: 2001-02-07

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2020	8.93

SCHOLASTIC ACHIEVEMENTS

- Achieved **All India Rank 347** in **JEE Advanced** out of 172,000 candidates (2018)
- Secured **All India Rank 646** in **JEE Main** out of 1.2 million candidates (2018)
- Achieved **2nd Rank** in Samarpan Talent Appreciation and Reward Exam (2017)
- Received **Distinction Certificate** for securing 80 - 90 % marks in State Merit List of STSE Exam (2014)

INTERNSHIPS

Akkarbakkar App — *Full Stack Development* Winter 2019
Yoso Media Pvt. Ltd.

- Implemented a controller in Rails app to **authenticate** users and handle **sessions** using **devise** gem
- Integrated **cancancan** gem to handle **permissions** regarding accessing and updating data based on user's role
- Implemented direct image upload to aws cloud along with some image operations using **shrine** and **aws** gems
- Created a FrontEnd **React** app involving heavy use of **redux**, **redux-forms**, **react-router**, and **react-apollo**
- Implemented several **graphql mutations** and queries over **mongodb** models in Rails app

KEY PROJECTS

Chatbot — *Deep Learning* Aug - Sep 2019

- Designed a **Seq2Seq Generative** Conversation model using **Gated Recurrent Unit (GRU)** in **PyTorch**
- Implemented an **encoder RNN** and a **decoder RNN** along with **luong attention layer** for context
- Successfully trained the Chatbot using **teacher forcing**, **gradient clipping**, and **masking** techniques

Question Bank Application — *Web Development* Oct - Nov 2019

- Developed a **django** application to store question banks without any limit on depth of question-modules
- Implemented **user-authentication**, search-filters, question addition by **INI** file and several **sqlite3** queries
- Integrated **MathJax** and **LaTeX** and Implemented **paper generation** to export and download them as a pdf

Lyrics Generator — *Machine Learning* May - July 2019

- Designed a **Word Level Based LSTM** model to generate song lyrics in English from a given seed word
- Implemented **recurrent neural network** and **Long Short Term Memory** cell from scratch using only **numPy** library and designed a **training model** for this network

Go Game — *Racket Programming* March - April 2019

- Developed a full version of Go Game involving **2htdp/universe** library for **GUI** and **event handling capacities**
- Implemented **Monte Carlo Tree Search** to generate computer move using **Benson's algorithm** for giving weights to nodes and **UCB selection function** for selecting nodes

Other Projects

- Decision Trees:** Constructed decision trees for selecting the attribute based on **entropy reduction**
- Scheme Interpreter:** Designed a basic interpreter for Racket based on **Environment Model of Execution**
- Cryptography:** Implemented decrypter for **mono-alphabetic cipher** using dictionary-closure and frequencies
- Image Denoising:** Implemented an algorithm to minimize **Salt and Pepper noise** in images using **SciPy** and **NumPy** libraries along with applying **K-Means Clustering** for Image Compression

TECHNICAL SKILLS

Proficient In	C++, Python, Java, Javascript
Experience with	HTML, CSS, Bash, Racket, Prolog, Ruby
Web Development	Django, Rails, ReactJS, Redux, GraphQL
Softwares	MATLAB, Git, Jupyter-Notebook, SolidWorks, AutoCAD
Machine Learning	Pytorch, NumPy, SciPy, Pandas, Matplotlib

EXTRACURRICULARS

- Successfully Completed Big Data, Bioinformatics, and Proteomics (**BDBP Camp**) (2019)
- Participated in **Annual Training Camp 412** under 2 Maha Engr Reg NCC
- Engineered an app-controlled bot car in **XLR8** competition organized by Robotics Club IITB (2018)
- Delivered a **Career Guidance Session** to 50+ students of BMC school conducted by Abhyuday IITB