Rohit Kumar Jena
Computer Science & Engineering
Indian Institute of Technology Bombay

150050061
UG Third Year (B.Tech.)
Male
DOB: 30/03/1997

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2018	9.29
Intermediate/+2	CBSE	D.A.V. Public School, Unit-8	2015	95.80
Matriculation	CBSE	D.A.V. Public School, Unit-8	2013	10.00

Pursuing **Honors** in Computer Science and Engineering.

Scholastic Achievements

- Secured **57th position** in IIT JEE-Advanced 2015 out of **over 150,000 candidates** *(2015)*
- Secured **99.96 percentile** in JEE-Main 2015 out of **1.3 million candidates** *(2015)*
- Recieved the **Kishore Vaigyanik Protsahan Yojana** Scholarship with an All India Rank of 175 *(2014)*
- Outperformed in *'Engineering Graphics & Drawing '* and *'Basics of Electricity & Magnetism'* courses securing an **AP grade**, given only to exceptionally performing students **(top 1 percent)** *(2015)*

Interests

- Machine Learning and Artificial Intelligence
- Computer Vision
- Algorithms and Combinatorics
- Probability theory

Key Projects

Food Tracker and Predictor Pipeline *Summer 2017*
Guide: Dr. Arantza Aldea *Oxford Brookes University*

- Developed an Android application which logs food items, meals, and custom labels by date, time, and location with tags for special foods to store quality, structured food consumption data of the user
- Developed a Django backend which syncs user data for fault-tolerance, data analysis and trend setting
- Implemented a deep learning pipeline which predicts user's preferable foods based on previous activity

Factual Question Generation for LokaVidya *Spring 2017*
Guide: Prof. Ganesh Ramakrishnan — Course Project *Research and Development*

- Set up WikiMiner with Hadoop to handle large amounts of Wikipedia text data and set up CoType to extract joint entities and relations from entity mentions of the corpus
- Prepared a report on analysis of the CMU paper on "Question Generation via Overgenerating Transformations and Ranking" on various datasets based on the quality of questions generated by the model
- Developed a scheme for content moderation in the LokaVidya app by proposing models for users and videos

AdvATMC : VHDL based Network of ATM controllers *Spring 2017*
Guide: Prof. Supratik Chakraborty — Course Project *Digital Logic Design*

- Designed a working logical model of ATM machine in VHDL and tested it by mapping it on FPGA board
- Made a backend in C to perform password checks, balance updates and issue instructions to the ATM Controller
- Uses Tiny Encryption Algorithm for secure communication with backend

GUI based Chat application *Spring 2017*
Guide: Prof. Varsha Apte — Course Project *Computer Networks*

- Developed a chat application using socket programming in C++ and used **ncurses** library for GUI
- Implemented LDAP Authentication to login into the application
- Real time updation of 'last seen' of the people on the network and support for text file attachments

Learn To Flap — Deep Q-learning bot for playing Flappy Bird *Spring 2017*
Guide: Prof. Ganesh Ramakrishnan — Course Project *Foundations of Machine Learning*

- Implemented Multi layer Perceptron and Support Vector Machine models to train the bot
- Analysed the performance of multi layer perceptron models using different architectures, and loss functions
- Implemented a deep learning based Q-learning bot and compared performance with supervised learning models

Cisco Twitter Analyser Tool *Autumn 2016*
Cisco WebEx/CiscoSpark *IIT Bombay*

- Developed a web app for analysing trends in hashtags and mentions for CiscoSpark and WebEx names
- Built a Socket Programming application to fetch and show data from Twitter public streams in real-time
- Used Twitter search and stream APIs to stream relevant tweets and user data

Feed'er — An all-purpose 'Acad' app for college students *Autumn 2016*
Guide: Prof. Sharat Chandran — Course Project *Software Systems Lab*

- Incorporated real-time feedback system for improvement of responsiveness of the courses
- Facilitated display of deadlines, exam dates, schedule changes, venue changes and other reminders in real-time, with TA specific features like reminders to grade the completed labs
- Built a Django framework for TAs and professors with Google/Facebook login, CSRF, clickjacking, XSS attack protection, with visual representation of class data like feedback, ratings, grading stats

Steganography Tool *Autumn 2015*
Guide: Prof. Varsha Apte — Course Project *Computer Programming and Utilization*

- Designed and implemented a steganography tool using C++ from scratch
- Implemented an algorithm using xorshift pseudo random generator which requires seed to encrypt/decrypt

Other Projects

- **RPG Strategy Game**: Developed a role-playing strategy game using 'Construct 2' game engine for 'GameJam' hosted by Lenovo and recieved 'Honorable Mention' among 50+ teams
- **Mood Indigo Official Website**: Developed and implemented the backend for Mood Indigo official website with features like user registrations, MI registration number generator, event and competitions update handlers
- **G.R.A.S.P. — Gesture Recognition Tool**: Built a Gesture recognition tool in Python which records lateral hand movements to perform tasks like toggle apps, control volume, and other features
- **Mood Indigo College Representative Portal**: Implemented a portal using AngularJS, ExpressJS, and MongoDB which facilitates registration, signin, and reward based sharing of promotional posts

Technical Skills

Programming	C++, C, Python, BASH, Java, C#, R, MySQL
Web Development	HTML, CSS, JavaScript, Django, SQLite, MongoDB
Data analysis & ML	MATLAB/Octave, Gnuplot, Numpy(Python), TensorFlow, SciPy, Keras
Software and Frameworks	Git, Makefiles, Box2D, OpenCV(Python), Jekyll, npm, GruntJS, LaTeX

Positions of Responsibility

Teaching Assistant

- Software Systems Lab (CS 251) — Prof. Kavi Arya *(Autumn 2017)*
- Advanced Calculus (MA 105) — Prof. A. K. Pani *(Autumn 2016)*

Key Courses Undertaken

Computer Science	Automata Theory**, Implementation of Programming Languages**, Artificial Intelligence **, Computer Architecture*, Operating Systems*, Database and Information Systems*, Fundamentals of Digital Image Processing*, Abstractions and Paradigms in Programming, Software Systems Lab, Discrete Structures, Data Structures and Algorithms, Data Analysis and Interpretation, Digital Logic Design, Design and Analysis of Algorithms, Logic for Computer Science, Computer Networks, Foundations of Machine Learning
Mathematics	Numerical Analysis**, Calculus, Linear Algebra, Differential Equations

***to be completed by April 2018*
**to be completed by December 2017*

Extracurriculars

- Won **1st prize** in Bazinga Physics Quiz conducted by Maths n Physics Club, IIT Bombay
- Provided 80+ hours of **Dedicated Community Service** via an NGO under **NSS, IIT Bombay**
- Designed and implemented a Windows Universal App for **Microsoft Code.Fun.Do**, a one-day hackathon
- Implemented 50+ algorithmic solutons to various competitive coding platforms as a part of **Seasons of Code** conducted by **Web and Coding Club, IIT Bombay**