Akshit Srivastava

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Education

Indian Institute of Technology, Bombay		CPI: 7.87/10
B Tech., Material Science and Metallurgical Engineering		*2018 – 2022*
Indraprastha Institute of Information Technology, Delhi		CPI: 7.9/10
Audited a Year, Computer Science and Engineering,		*2017 – 2018*
Modern Vidya Niketan, Faridabad		91%
Intermediate/+2		*2017*

Experience

- **Mars Rover Team** — IIT Bombay
  Software Engineer — *Sept 2018 - Present*
  - **Obstacle Detection:** Detected obstacles in the trajectory via clustering of points in laser-scan map generated by Kinect v2, YDLidar sensor. Worked on UTM cost-grid based path update algorithms, involving satellite data parsing for altitude profile and increasing cost of terrain where the obstacle is detected.
  - **Path Planning:** Investigated path planning algorithms like A*, Dijkstras for autonomous operation of rover over the cost maps generated. Also, simulated an algorithm for obstacle avoidance based on cost profiles and gradients.

- **DevCom** — IIT Bombay
  Developer — *Mar 2019 - Present*
  - **Insti-App:** Maintain and develop the webapp that features the Placement Blog, Upcoming Events and general information on every active club/body in the Institute. Its Android app has 10,000+ downloads.

Projects

- **Machine Learning(Reading Project)** [Report] — IIT Bombay
  Summer of Science - Maths n Physics Club — *May'19 - July'19*
  - Completed **Deep Learning Specialization** from Coursera. It is a set of 5 courses aimed to give an introduction to CNNs,RNNs and LSTMs and other implementations of Neural Networks in general.[Certificate]
  - Implemented regression, classification, clustering and data retrieval algorithms along with various neural networks on datasets involving real estate, sentiment analysis, Speech recognition and animal recognition.
  - Attempted famous **Titanic Challenge** on Kaggle, which involved primitive data cleaning and regression.[Code]
  - Attempted the **MNIST Digit Recogniser** challenge on Kaggle which required training a CNN on **MNIST** digits dataset and recognizing hand-written digits. Completed the task with 99% accuracy. [Code]

- **Text Generator** [Code] — IIT Bombay
  Seasons of Code - Web and Coding Club — *May'19 - July'19*
  - Implemented a Bi-directional **LSTM** with dropout and trained it on lyrics of over 75 songs by the same artist(Eminem) for more than 10 times while changing the hyperparameters each time.
  - After training the model, used it to generate words in an attempt to learn more about Vanilla RNNs and the effect of different hyperparameters like number of hidden layers, learning rate, etc. on training.

- **Auto-Login : A Chrome Extension** [Code] — IIT Bombay
  Hobby Project — *Oct'18*
  - Developed a Chrome extension using JavaScript to log in with just a single click.
  - It will automatically load internet.iitb.ac.in, fill in a form and submit it for logging on to IITB LAN Network.

- **Online Library Management System** [Code]   IIT Bombay
  DevCom   June 2019
    - Created a REST API using **Django** rest framework for library management system.
    - It has a feature to keep a track of all Users, Books(including Multiple copies) and their current status.
- **App-Controlled Car**   IIT Bombay
  Electronics and Robotics Club   Sept 2018
    - Designed and Built a manually controlled car capable of negotiating different kinds of obstacles and completing the designated track for IIT Bombay's competition **XLR8**.
    - Used Arduino Nano and an HC-05 Module to control the car using an Android **App**.

TECHNICAL SKILLS

- **Programming**: Python, Javascript, C++, Java, ROS, R, Matlab, Bash, HTML5, CSS
- **Softwares/Tools**: Tensorflow, Keras, Git, MatplotLib, LATEX, AutoCAD, Arduino
- **Development**: Django, Solidity, Angular, Jekyll

SCHOLASTIC ACHIVEMENTS

- **JEE Advanced:** Secured All India Rank **3154** in JEE Advanced amongst 200,000 selected candidates
- **JEE Main:** Secured All India Rank **2170** in JEE Main amongst 1.2 Million candidates
- **NTSE:** Awarded the National Talent Search Examination scholarship by NCERT, Government of India
- **KVPY:** Recipient of the prestigious Kishore Vaigyanik Protsahan Yojana (KVPY) fellowship

POSITIONS OF RESPONSIBILITY

- **Convener**   IIT Bombay
  Web and Coding Club   Apr '19 - Mar '20
    - Part of a team of 22 members running one of the biggest technical clubs in India.
    - Contributed towards developing and maintaining the wiki of WnCC. Added the code for testing an Ethereum **Smart Contract** along with an explanation. [Link]
    - Responsible for propogation of **Blockchain@IITB** Circle. Organized a talk on basics of blockchain and a hackathon on Decentralised App development using Smart Contracts.
- **Web Secretary**   IIT Bombay
  Hostel 2   Aug '19 - Apr '20
  Responsible for development and maintenance of the official website of Hostel 2, IIT Bombay.
- **Education Volunteer**   IIT Bombay
  National Service Scheme   Aug '18 - Apr '19
  Completed 80 hours of Social Service, taught basics of computing to under privilaged children.

RELEVANT COURSES

- **Computer Science:** Computer Programming & Utilization, Algorithms & Complexity*
- **Mathematics:** Calculus, Linear Algebra, Differential Equations
- **Others:** Quantum Physics, Data Analysis & Interpretation*, Economics*

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*Tentative Course for Autumn'19