Abhinav Arora

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Education

Indian Institute of Technology, Kanpur *Graduating June 2021*
B.Tech., Mechanical Engineering

CPI: 7.6

Vivekanand School *Graduated May 2016*
All India Senior School Certificate Examination

Cumulative: 96.8%

Vivekanand School *Graduated May 2014*
All India Secondary School Examination

CGPA: 10.00

Projects

Machine Learning: Sentiment Analysis

March 2017

Completed a project on sentiment analysis with application of Bayes' Theorem and Vector-Space model, under the Association for Computing Activities (ACA) of IIT Kanpur. The project also involved study of Sigmoid neurons and Neural Networks.

Electronics: Wireless door lock

December 2016

Constructed a working wireless door lock. The mechanical design was a basic rack and pinion mechanism, with the functioning handled by Arduino microprocessors, communicating via HC-05 Bluetooth modules. This project was completed under the Robotics Club of IIT Kanpur.
(Documentation: https://goo.gl/SBZ4cs)

Reinforcement Learning: Optimum Path Finder *

March 2017

Developed a simplified emulation of a road map in Python, and implemented a Q-learning based reinforcement model to find the optimum path on the road map given factors such as traffic. Also includes a GUI made using the Tkinter library for Python.
(Github: https://github.com/abhiar/RLpathFinder)

Machine Learning | Genetic Algorithms: Flappy Bird Player *

July 2017

Implemented the genetic algorithm NEAT(Neuroevolution of Augmenting Topologies) to construct a neural network capable of playing the Flappy Bird game.
(Github: https://github.com/abhiar/flappyBirdPlayer)

(* - self projects)

Relevant Courses

Completed Courses: ESC101 (Fundamental of Computing): **A**; ESC201 (Introduction to Electronics): **A**; ESO209 (Dynamics): **B**
Upcoming Courses*: ESO203 (Introduction to Electrical Engineering)
* - will be completed by May 2019

Skills

Programming Languages:	Python, C, C++, JavaScript
Other languages:	HTML, CSS, LaTex
Computer Vision:	openCV for Python
Electronics:	Arduino, non-programmable ICs.
Designing:	Autodesk Inventor

Achievements

- Secured **National Rank 806** in **JEE Main** 2016 and **National Rank 1162** in **JEE Advanced** 2016 amongst **1.2 Million candidates**.
- Secured **National Rank 28** in **IPU CET** 2016 amongst **150,000 candidates.**

Positions of Responsibility

- **Headboy**, Students' Council, Vivekanand School (2015-16)
  Led the students' council, a group of 15 members. During the tenure, organised a number of inter- and intra- school events, and dealt with all the issues/tasks pertaining to student welfare.
- **Science and Technology Secretary**, Hall of Residence - II, IIT Kanpur (2017-18)
  Dealt with all the tasks of the hall concerned with the Science and Technology branch. Also led an inter-hall technical competition for the respective Hall of Residence.

Languages

English	Fluent
Hindi	Native
German	Conversational