Ankit **Solanki**

Sophomore · Undergraduate

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Academics Details

Year	Degree	Institution	GPA/Marks (%)
2016-2021 (Expected)	B.Tech&M.Tech in Computer Science	Indian Institute of Technology, Delhi	2.88/4
2015	Class XII (CBSE)	Kendriya Vidyalaya Sangathan(KVS)	94.2 %
2013	Class X (CBSE)	Kendriya Vidyalaya Sangathan(KVS)	10/10

Relevant Courses

Completed : Data Structures & Algorithms, Discrete Mathematical Structure, Digital Logic & System Designs, Calculus, Linear Algebra and Differential Equations, Probability & Stochastic Processes, Principles of Electronic Materials
To be completed by May'18 : Computer Architecture, Programming Languages, Signals and Systems, Design Practices.

Course Projects

Image Compression System - Operating Data Structures
Prof. Mausam

JAVA | DATA STRUCTURE *September'17*

- Encoded a given image in a compressed format and performed operations like Inversion, Changing and updating pixel values, and performed basic binary operations like AND, OR and XOR.
- Idea of the compressed representation of any image was to use the redundancy in the pixel value information among neighbouring pixels to reduce the amount of information that needs to be stored.

Universal Asynchronous Receiver-Transmitter(UART)
Prof. Anshul Kumar

DIGITAL LOGIC | XILINXISE(VHDL) *Oct-Nov 2017*

- Established a UART protocol between PC and FPGA (Basys3 Board) to perform serial communication by transmitting data at some give frequency.
- Configured the data-format and transmission speeds in a hardware device for asynchronous serial communication in a UART.
- Performed communication through data-stream of the characters in their ASCII format.

Shortest Path Problem - Dijkstra's Algorithm
Prof. Mausam

JAVA | GRAPH THEORY + DATA-STRUCTURE *Nov 2017*

- Implemented Dijkstra's algorithm for finding the shortest path between two configurations of an Puzzle-tile game.
- Program takes in some initial and final board configurations with varying path costs and outputs the minimum path and its cost.

Designed an Elevator System
Prof. Anshul Kumar

DIGITAL LOGIC | XILINXISE(VHDL *Oct 2017*

- Implemented on the FPGA (Basys3) board using VHDL comprising of a model of two lifts spanning over 4 floors.
- Handled multiple requests from inside the lifts as well as from the respective floor using Fixed State Machine(FSM) while the current state of both the lifts was displayed on a Seven Segment Display(SSD), which itself was designed in VHDL schematic.

Data-Structure and Algorithm Assignments
Prof. Mausam

JAVA | HASHING + DATA INDEXING IN B⊠TREES *July-Nov 2017*

- Implemented an anagram finder which for a given input loads up all the anagrams from a separate Vocabulary file.
- Code was made to operate faster and more efficiently by implementing our own Hash Functions for faster retrieval.
- Implemented B Trees in JAVA used for Data indexing.

Independent Projects

Virtual Personal Assistant - Gavy
GitHub Code Here

MACHINE LEARNING | NATURAL LANGUAGE PROCESSING *December'17*

- Uses Natural language processing algorithms and Named entity recognition techniques to understand the User and then make corresponding API calls to the external systems.
- Uses Speech Recognition Speech-to-text libraries to understand the speech of the user and speak back with similar open source libraries.

Analyzing Love Songs - AI Love *GitHub Code*

ARTIFICIAL INTELLIGENCE | DATA-SCRAPING | NATURAL LANGUAGE PROCESSING *November'17*

- Analyze the love percentage in the given song using Natural language processing techniques and data-analyzing.
- Scrape the lyrics of the named song and learns on its under in certain conditions.

Website Development Projects

- **Dynamic-PHP and JS website** - Board of Student Welfare, IIT Delhi.

- **Website Portal and Server-Host** - Enactus IIT-Delhi

- **Full-Stack Development** - Definition Crew (A Dance Club)

Technical Skills

Prog. Languages , Python, C++, C, PHP, JAVA, HTML5/XHTML, XML, CSS3, JavaScript, jQuery, VHDL, LaTex.

Softwares, Espresso 2.0, Eclipse, Android Studio, Xilinx(ISE) Vivado Design Suite, Adobe Photoshop, Octave/Matlab and Autodesk Inventor

Frameworks, AngularJS, NodeJS, Django

Interested Fields of Work

Machine Learning | Neural Network Systems
Computer Vision
Data-Analytics | Statistical Systems
Natural Language Processing

PoRs (Post of Responsibilities)

- **Hostel Representative and Web Executive - Board of Student Welfare, IIT Delhi**

- **Web Executive - Enactus IIT Delhi**

- **College Representative - Brain Sea (A Startup which hires IIT students for full-time & intern positions)**

- **Vice Captain - Hostel Basketball Team**

Extracurricular Activities

- Former member at **Dance Club**, **Fine-Arts** and **Online Debating Threads**

- Former **football** and current **basketball** hostel team member

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