

Akshit Tyagi

Sophomore Undergrad Electrical Engineering
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Education

- **Indian Institute of Technology, Delhi** New Delhi, India
B.Tech. in Electrical Engineering, CGPA: 9.293 2014 - 2018 (expected)
- **Delhi Public School, R.K. Puram, Std. XII** New Delhi, India
Graduated with a 97.0 aggregate percentage Graduated in 2014
- **Delhi Public School, R.K. Puram, Std. X** New Delhi, India
CGPA: 10.0 Graduated in 2012

Work Experience

- **Winter Software Engineering Intern** Dealsnprice.com, Gurgaon, India
Deep Learning and Image Search Team Nov.- Dec. 2015
 - Worked on Deep Learning Algorithms involving implementation and optimization of Convolution Neural Network algorithms to optimize image search and object detection for an e-commerce website. It included working on machine learning algorithms to extract features from images and then classifying those images via Support Vector Machines and Bag of SIFT-words classifier.

Projects undertaken

- **Automated Renting and Vending Machine** IIT Delhi
Design Innovation Summer Award (DISA) under Prof. M. Balakrishnan May-July 2015
 - Prototyped a product which can rent out umbrellas and accept them back via Android app authorization.
 - Implemented image processing for detecting the change(s) in the umbrella before it was vended out. Changes included any kind of a damage to the product (Say some handle damage or the tarpaulin tear). This enabled us to build a verification system to detect if any damage has been done to the product.
 - Image Processing was carried out using NumPy, OpenCV and Matplotlib on the Raspberry Pi. The use of RaspPi made the product more compact and portable.
- **Hangman game for the visually impaired** NSS, IIT Delhi
Independent Project February-May 2015
 - Built a Hangman based game for Android devices with support for devices with API version greater than 17.
 - The game used swipe gestures and TextToSpeech Google Engine to interact with the visually impaired, thus enabling a new class of people to use the Android applications.
 - Implemented the TTS(Text-to-Speech) Engine for the conversion of messages to speech for a richer gaming experience.

- **Learning Management System for Schools**

HackX, IIT Delhi

Independent Project

August 2015

- Designed a web application for schools where parents, students and teachers can login and manage their respective roles w.r.t. the school system.
- Implemented a chat interface and a mailing service with the FireChat and FireBase web server. MySQL was used for the backend database management and JavaScript for the backend logic of the WebPage. HTML5 and CSS were used for the frontend development.

- **A Small Search Engine using Inverted Page Index**

COL106(Course), IIT Delhi

Course Assignment under Assoc. Prof. Amitabha Bagchi

October 2015

- Made a small Search Engine that can return a list of most relevant queries for word(s)(phrases,AND,OR statements can be handled) using HashTable lookup in an InvertedIndex for a set of pages. The data storage included implementation of AVL Trees for faster lookups for phrase queries. Code can be found at <https://github.com/akshittyagi/SmallSearchEngine>

Awards, Grants & Honours

Design & Innovation Summer Award(DISA)

IIT DELHI,2015

Project Idea was selected to be completed and prototyped under the DIS Award

Institute Award for being a student in the top 7% in the first year

IIT DELHI,2014-2015

National Talent Search Examination 2010

NCERT, JULY 2010

Awarded the Scholarship

KVPY Fellowship 2012-13

DST,2013

Awarded the Fellowship

Indian National Chemistry Olympiad 2014

HBCSE,FEBRUARY 2014

finished in top 50 students nationally

Junior Science Talent Search Examination 2011

GOVT. OF DELHI,JULY 2011

Awarded the Scholarship, stood 2nd in state

Relevant Courses Taken

Signals and Systems

Digital Logic and Circuits*

Machine Learning*

Data Structure and Algorithms

Course in Analysis of Algorithms in Java

Physical Electronics

Probability and Stochastic Processes* Linear Algebra and Differential Equations

Calculus

*Courses to be taken in the Spring Semester of 2016

Designing and Programming Skills

Extensive

C++, JAVA, MATLAB, BASH(LINUX SHELL)

Intermediate

PYTHON, JAVASCRIPT, XML, C, ANDROID STUDIO

Basic

CSS, HTML5