

Akshit Tyagi

Sophomore Undergrad Electrical Engineering
Indian Institute of Technology, Delhi

Ph. No: +918527505197

akshit.ee114@ee.iitd.ac.in

akshitt795@gmail.com

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. All of this was packaged into an Android app and will be released publicly soon.

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. The user authentication was done using credentials verification on an Android application.
 - 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.

- 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>
- 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) <i>Project Idea was selected to be completed and prototyped under the DIS Award</i>	IIT DELHI,2015
Institute Award for being a student in the top 7% in the first year	IIT DELHI,2014-2015
National Talent Search Examination 2010 <i>Awarded the Scholarship</i>	NCERT, JULY 2010
KVPY Fellowship 2012-13 <i>Awarded the Fellowship</i>	DST,2013
Indian National Chemistry Olympiad 2014 <i>finished in top 50 students nationally</i>	HBCSE,FEBRUARY 2014
Junior Science Talent Search Examination 2011 <i>Awarded the Scholarship, stood 2nd in state</i>	GOVT. OF DELHI,JULY 2011

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
Electromagnetics*	EM Waves and Quantum Mechanics	Physics Laboratory

*Courses to be completed in the Spring Semester of 2016

Designing and Programming Skills

Extensive	C++, JAVA, MATLAB, BASH(LINUX SHELL), AUTODESK INVENTOR
Intermediate	PYTHON, JAVASCRIPT, XML, C, ANDROID STUDIO
Basic	CSS, HTML5, MATHEMATICA