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 and 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.

- **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 developement.

- **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 2^{nd} 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
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(Unix Shell)
Intermediate	Python, JavaScript, XML, C, Android Studio
Basic	CSS, HTML5, Mathematica