Akshit Tyagi

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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. 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.

- **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

- **Gesture(Handwriting/Text) Recognition from Videos**   IIT Delhi
  Independent Project under Prof. Rahul Garg   *January 2016-Ongoing*
  - Designing a software package for a MOOC where, the text of the lecture can be extracted from the lecture video.
  - This involves using spline-curve fitting to the strokes of the handwritten text of the Instructor. It is being implemented using Machine Learning algorithms for curve fitting for splines and higher order polynomials.

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
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