Aniket Bajpai

Sophomore, Computer Science

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Education

2014–2018 **Bachelor of Technology in Computer Science and Engineering**, *IIT Delhi*.
CGPA – **9.71** (10 in 2nd semester)

2012–2014 **Senior Secondary**, *Higher Secondary Certificate Examination(HSC)*,
Percentage - 86.0.
Top 1% in Maharashtra

2012 **Secondary**, *Indian Certificate of Secondary Education Examination (ICSE)*.
Percentage - **97.0**

Achievements

Institute Merit Award — Was placed among the **top 7 percent** of IIT Delhi in the first and second semesters of the 1st year (2014-2015).

Aditya Birla Scholarship — Continuing recipient of the **Adita Birla Fellowship 2014** in the engineering stream awarded to 16 students across all engineering institutes in India

IPhO 2014 — Represented India at the 45th **International Physics Olympiad (IPhO), 2014** and secured **Gold medal**.

APhO 2013 — Represented India at the 14th **Asian Physics Olympiad (APhO)**, 2013 and secured **Bronze medal**.

IJSO 2011 — Represented India at the 8th **International Junior Science Olympiad, 2012** and secured **Silver medal**.

KVPY — Secured **All India Rank 2** in **KVPY** (Kishore Vaigyanik Protsahan Yojana) Exam 2012 conducted by the IISc, Bangalore and was awarded Fellowship in the Science Stream.

IIT-JEE 2014 — All India Rank **55** in IIT-JEE Advanced 2014 exam among 150,000 students qualified to take the JEE Advanced, selected out of over 1.3 million students who took JEE-Mains exam.

IChO — Qualified for the Orientation cum Selection Camp for the **International Chemistry Olympiad** 2014.

IMO — Qualified for the Orientation cum Selection Camp for the **International Mathematics Olympiad** 2013.

NTSE — Secured **All India Rank 1** in **NTSE** (National Talent Search Exam) 2010, and was awarded NTS scholarship.

Projects

Ongoing **App to convert text in image to speech:**
- Implemented preprocessing techniques such as local adaptive thresholding, deskewing, noise filtering on colour images.
- Used Tesseract Open Source library to perform OCR on preprocessed image.
- Used Google text to speech and translate APIs to obtain audio from image.

October 2015 **Search Engine:**
- Developed Java engine to search in a set of pages using given relevance function.
- The search engine was capable of searching for a single word as well as complex queries such as a phrase, any of the given keywords, or all of the given keywords
- Implemented Hashmaps and balaced binary search trees as part of the engine.

September 2015 **Article Classification into newsgroups:**
- Implemented a Naive Bayes Classifier in java to classify an article into 8 newsgroups (supervised learning).
- The algorithm was able to classify 1470 test articles with an accuracy of 96% in 3ms.

September 2015 **Web service to connect lawyers to clients:**
- Developed application to reduce communication gap between lawyers and clients.
- Developed secure backend using codeigniter3 framework to protect against SQLi and XSS attacks.

August 2015 **Sudoku game for Google App Engine:**
- Developed a Sudoku game of 3 different levels of difficulty and deployed it on the Google App Engine.
- The game consisted of a sudoku generator (for generating sudokus of varying difficulty), sudoku solver (using backtracking), and the game UI which was written in python.

January 2015 **Autonomous Robot for playing brick breaker game:** (Robotics Club IITD)
- Developed a bot for Kshitij, IITKGP. The team reached the final round and won the best algorithm award.
- Template matching in matlab was used to detect bricks and ball, and paddle was moved and rotated accordingly.

Summer 2015 **Website and App for facilitating easy navigation in IIT Delhi campus:**
- Developed a web and mobile app to facilitate navigation and provide information about various facilities inside the IIT Delhi. campus
- Used PHP, Javascript, Google Maps and Custom Search APIs.

Relevant Courses Taken

Ongoing	Data Structures and Algorithms, Probability and Stochastic Processes, Discrete Mathematical Structures, Digital Logic and Hardware Design
Complete by Summer 2016	Principles of Artificial Intelligence, Programming Languages, Computer Architecture
Completed	Introduction to Computer Science, Introduction to Electrical Engineering, Linear Algebra and Differential Equations, Calculus
Online(self)	Introduction to Machine Learning, Digital Image Processing, Analysis and Design of Algorithms

Technical skills

Programming Languages	C++, Java: proficient; python: intermediate; ruby, c#: basic
Web	Codeigniter, PHP, mySQL, javascript, jQuery, CSS3, HTML5
Software	Matlab, Octave, Android Studio
Miscellanous	OpenCV, OpenGL, Tesseract, Arduino, Google APIs (Custom Search, Maps, Translate, Text to speech), Google App Engine, git

Extra Curricular Activities

- Competed as a team of 2 in the algorithm contest "Algorythm" at Tryst 2015, IIT Delhi, securing 2nd position.
- Competed in "Bugsmash", a contest to detect and remove bugs, at Tryst 2015, IIT Delhi, securing 3rd position.
- Competed in "Imagica", an image processing contest organized by Electronics Engineering Society, IIT Delhi ,securing 2nd position.
- Competed as a team of 2 and qualified in the Top -500 teams in the world in the 1st round of Codechef Snackdown, 2015.

Interests

I am interested in learning about all aspects of Computer Science Engineering in general and in **machine learning** and **computer vision** in particular. The projects I have completed and the activities I have participated in reflect my varied interests.
My hobbies include robotics, competitive coding and chess.

Others

- Contributing as an Academic Resource Person for the International Physics Olympiad, 2015 held in Mumbai, India in July 2015.
- Cleared grades 1-5 (Theory and Practical), Western music (keyboard) conducted by Trinity College, London.

References

- Prof. S.K.Saha, Department of Mechanical Engineering, IIT Delhi (saha@mech.iitd.ac.in)
- Prof. Shubhendu Bhasin, Department of Electrical Engineering , IIT Delhi(sbhasin@ee.iitd.ac.in)