

# ABHISHEK MOHTA

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## ACADEMIC QUALIFICATIONS

	College/University	CGPA/%	Year
M.Sc.(Hons.) Economics, B.E.(Hons.) Computer Science	BITS Pilani K K Birla Goa Campus	9.41/10	2017
CBSE Class XII (A level equivalent)	Birla High School, Kolkata, India	97%	2012
CBSE Class X (O level equivalent)	Birla High School, Kolkata, India	9.8/10	2010

## ACADEMIC DISTINCTIONS

- Graduated with **Distinction** - Awarded **Merit Scholarship (40%-80% of tuition fee)** amounting up to **\$10,000** at university for 8/10 semesters (**Top 2% in batch of 600**)
- Rank 2** among all Dual degree students (**over 200 students**) and **top 5 in CS (over 120 students)** with combined Economics+CS CGPA(9.41)
- GPA with **only Computer Science courses – 9.67/10**
- Secured **1st rank** in Science stream in CBSE XII in the **city of Kolkata, India** (out of **30,000 students**)
  - Awarded the Mamraj Agarwal National Award, Amul Vidyabhushan award and scholarships worth **\$1,000**
  - Highest score in **Mathematics(100/100)** and **Computer Science(99/100)** in school (out of **250 students**)
- Awarded the **Best All-Rounder** at the Farewell for the Batch of 2017, BITS Pilani K K Birla Goa Campus (out of **600 students**)
- Recipient of SP Banerjee award for exceptional all-round achievements at high school (out of **300 students**)

## WORK EXPERIENCE / INTERNSHIP

- Research Fellow, Microsoft Research Lab India – Machine Learning** July 2017 – Present
  - Enhancing the **Program Synthesis by Examples (PROSE)** framework with machine learnt models replacing hand-written heuristics; Under the guidance of **Dr. Prateek Jain (Researcher, Microsoft Research India)**
  - Successfully implemented a Deep Learning model using **LSTMs in CNTK/PyTorch** to prune unnecessary branches in the synthesis process – leading to performance improvement of **over 50% over PROSE** and RobustFill.
- Research Intern, Microsoft Research Lab India – Applied Sciences and Engineering** January 2017-July 2017
  - Enabling Whole Program Analysis as a service – a scalable and reliable end-to-end system to statically analyze code and find bugs leveraging **Static Module Verifier (SMV)**; Under the guidance of **Dr. Rahul Kumar (Principal RSDE, Microsoft Research Redmond)**
  - Successfully run on the **entire Windows drivers code base** and found **500+ bugs** – null pointers and use-after-free.
  - Infrastructure created to adapt to any build system and code base – work on a **corresponding research paper** is on.
- Intern, Amazon Development Centre India – Retail Business Systems Team** July 2016-December 2016
  - Improvements in the Automated Content Correction and Validation Engine using n-gram based ML models.
  - Implemented the infrastructure for a feedback system to reduce manual intervention using AWS Tools.
- Intern, Microsoft India Development Center – MSIDC – STCI(Bing) Team** May 2016-July 2016
  - Implemented a classifier to find new/missing restaurants in the Bing database leveraging user query logs
  - Achieved an accuracy of **over 90%**; Under the guidance of **Narayanan Subramanian (Principal SE, MSIDC)**
- Intern, KPMG India – Business Performance Services - Strategy and Operations** May 2015 – July 2015
  - Supported the team working with a leading apparel brand in research and analysis of Fashion & apparel e-commerce startups
- Intern, Indian Institute of Remote Sensing, ISRO** May 2014 – July 2014
  - Implemented a tool to process satellite images and open-source the commonly used remote sensing software ERDAS

## PROJECTS

- Development of web portal to computerize management of manufacturing firm** June 2017
  - Initiative taken to help father in his business – created a reliable and scalable web portal handling the management of **over 10 factories** with turnover over **\$5 million**
  - Developed using HTML, CSS, PHP, JavaScript, MySQL
- Co-Founder – Xinger – a fully automated online food ordering portal** March 2015-June 2017
  - Initiative taken to solve a crisis on-campus and eventually expanding to entire of Goa
  - Developed the portal using HTML, CSS, PHP, JavaScript, MySQL based on the MVC framework; Negotiated and closed deals with **over 20 restaurants**
  - Client base of **over 7000**; Generated **over \$25,000** of revenue in the 2 years of operation

- **Clustering closely-related terrorist attacks using the Global Terrorism Database** March 2016-May 2016
  - Analysis of the Global Terrorism Database using optimized K-Means algorithm on Hadoop and Java
  - Clustering based on location, casualties, type of attack – insightful results closely resembling the ground truth
- **Development of the BITS Pilani Goa Main Gate Security System** January 2016–May 2016
  - Web based application built using HTML, CSS, PHP, JavaScript, MySQL; handled the complete end-to-end architecture and development; Under the guidance of **Prof. J. V. Rao (Associate Prof., BITS Pilani Goa)**
  - Handles the security of **over 3000** students, staff and faculty on campus
- **Other Projects –**
  - Designed a VLIW pipelined processor for a set of instructions.
  - Designed a Write Through, FIFO, Way Prediction cache of 512 B with associativity 2.
  - Designed a microprocessor based flour packing machine on Proteus programmed in assembly language.
  - Developed a stand-alone mess-management software in Java using JDBC and MySQL

## SKILLS & EXTRA CURRICULAR ACHIEVEMENTS

- **Languages:** C, C#, Java, Python, HTML, CSS, PHP, JavaScript, MySQL
- **Tools:** Git, Powershell, Eclipse IDE, Visual Studio, AWS Tools – S3, DynamoDB, Lambda, Kinesis, Azure
- **Frameworks:** CNTK, PyTorch, Spring, Guice, XML, JSON, Mockito
- **Debating:** Regular debater, Master of Ceremony and Model United Nations delegate

## INTERNATIONAL EXPERIENCE

- **Harvard Project for Asian and International Relations Asia Conference – Dubai** August 2013
  - Selected among **500 students** from across the world by **Harvard University**; debated on existing global issues.
- **Indian representative at PASCH Project in Germany** June 2010-July 2010
  - Went to Germany on a **full scholarship** awarded by German embassy; Completed A1 and A2 course in Deutsch
  - Part of the **16-member Indian squad**; Interacted with 60 students from across the world

## POSITIONS OF RESPONSIBILITY

- **Convener, Waves 2014 – Annual cultural festival, BITS Pilani Goa Campus** April 2014 – March 2015
  - **Headed** a committee of **300 students** to organize Waves with a budget of **\$150,000**; Open to **100,000 students in India**
  - Delegated work to various teams and coordinated the entire proceedings of the festival – events, professional nights, sponsorship, publicity, PR, security, media and the overall functioning
  - Successfully led the festival from **a loss of \$12,000 to a profit of \$15,000**; Raised rank of festival from 9<sup>th</sup> to 4<sup>th</sup>
  - Procured highest ever sponsorship of **\$55,000** and recorded the highest ever participation in the festival.