

# Kapil Agrawal

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2014–20 **Bachelors in Electrical and Electronics Engineering**, Bits Pilani.  
**Masters in Economics**, Bits Pilani.  
CGPA **7.50 (after 4th semester)**.

## Professional Experience

- May-Jul'16 **Risk Analysis Intern, Indian Bank, Chennai.**
- Performed Data Analysis and Classification techniques on the past credit risk data to create the risk model which predicts credit risk and aims at minimizing the credit risk incurred in the bank.
  - Used classification technique called decision tree algorithm to trained the model, also used the scikit-learn library and some useful python libraries to implement this. [Link](#).
- Jun-Jul'15 **Summer Intern at Amal Project, American University of Cairo, Egypt.**
- Taught and Trained students of age-group 10-12 years academically as well as physically as part of Amal Project which aimed to develop the entrepreneurship and innovation mindset for the youth of Egypt through sessions delivered by volunteers from all around the world.

## Key Projects

- August'16 **Predicting House prices.**
- Machine learning model created using various regression techniques like coordinate descent, gradient descent was used in predicting house prices.
  - The model created was optimised using techniques like ridge regression, L1 and L2 penalties, and finding best values of parameter lambda using crossvalidation and Kfold validation techniques. [Link](#).
- September'16 **Sentiment Analysis on the Amazon product reviews dataset.**
- Sentiment analysis was performed on the Amazon dataset consisting of baby product reviews, using logistic regression classifier and the linear classifier
  - Implemented the logistic regression from the scratch, and used various evaluation metrices like classification accuracy, confusion matrix, precision and recall.
- October'16 **Clustering and Retrieval of Wikipedia's people dataset.**
- Finded the nearest neighbours of different celebrities in the wikipedia's people dataset using KNN algorithm
  - Clustered wikipedia documents using K-Means algorithm and explored how the results vary with number of clusters.
  - LSH (locality Sensitive Hashing) was used to make the searching process faster. [Link](#).
- 2015 **Web and Mobile Applications.**
- Built data driven application which displays the detail of many Restaurants where user can perform CRUD operations. Used flask frameworks and SQLAlchemy, made an API Endpoints for Get Requests using Jsonify class. [Link](#).
  - Created web application which finds brief information about any famous street of the world. Used Wikipedia API and Google streetview API to implement this action.
  - Designed web-page which lists my favorite movies and show their trailers.
  - Created page to display Restaurant Menu through the Angular JS framework.
  - Built an android app to keep track of score of the basketball match.
- Sep-Nov '15 **Equity-Research Initiative.**
- Analyzed Tata Motors Ltd. for 2 months by performing Fundamental, Technical and Ratio Analysis; Constructed Valuation models for the company as a part of Mentored-Research Equity Research Initiative program. [Link](#).

## Positions of Responsibility

- 2016-17 **Hostel Representative.**
- Taking responsibility of handling problems of over 180 students and also looking about the proper functioning of hostel gadgets and student necessities
  - Organized and managed intra hostel sport and cultural competitions
- 2016-17 **Anti-Ragging committee membe.**
- Part of the 4-member committee which looks after the happening of severe case of ragging in the college

## Technical skills

Languages C, Python, Java, SQL, HTML, CSS, JavaScript  
Frameworks jQuery, AngularJS, Bootstrap, Flask

Tools Android, Git,  $\text{\LaTeX}$ , Jupyter  
OS Linux, Mac OS, Windows

## Scholastic Achievements

- 2010 Awarded **National talent Search Examination (NTSE) scholarship** by the Government of India in 2011 after 2 rounds of exam and an interview; In top 1000 out of 300,000 students
- 2012 Achieved **All India Rank 389** in National Science Olympiad organized by NSOF
- 2010-11 Secured **International Rank 89th in 4th and 125th in 3rd** International Mathematics Olympiad
- 2012 Secured **1st** position in ResoVista organized by Reasonance, awarded laptop as a prize
- 2014 All India Rank **5717** in **IIT Joint Entrance Examination** among 1.4 million students
- 2010-11 Achieved **11th state rank in 8th grade** and **14th state rank in 9th grade** in Maharashtra Talent Search Examination (MTSE)
- 2010 Secured **254th All India Rank** in National Cyber Olympiad organized by NSOF

## Extra-Curriculars

- 2008-12 **Captain of School Under-14 and Under-16 Cricket Team**; Got selected for state level bowling trials
- 2010-11 Played Inter school chess and table-tennis competition at **divisional level**
- 2012 **Captain of Under-16 school baseball team**
- 2014 Taught Maths, Physics and Chemistry to students of 10th grade while being a part of National Service Scheme(NSS), BITS Pilani
- 2015 Learned Languages; **beginner in Egyptian Arabic** and **beginner in Spanish**
- 2015 Won the intra hostel cricket tournament during the Bits Open Sports Meet
- Present Learning Photography and Martial Arts

## Relevant Coursework

- CS/Electrical Computer Programming, Computer Graphics, Image Processing, Software Defined Networking, Electrical Machines, Electromagnetic Theory, Electronic Devices, Digital Design, Data Communication and Networks, Electrical Sciences
- Economics Mathematical and Statistical Methods, Econometric Methods, Macroeconomics, Money Banking and Financial Institutions, International Economics, Derivatives and Risk Management, Marketing Research
- Online Deep Learning, Statistics, Data Structures and Algorithms, Full Stack Foundations
- Mathematics Calculus, Linear Algebra, Complex Analysis, Differential Equations