

# Mohd Abbas Zaidi

## Education

- 2015–2019 **Indian Institute of Technology Kanpur**,  
Major in Electrical Engineering, Minors in Machine Learning & Applications and Cognitive Science.  
Bachelor of Technology- **Institute Rank 1**(Highest GPA in Class of 2019), GPA – **10.0/10.0**
- 2014 **City Montessori School, Lucknow**,  
Indian School Certificate(ISC) Examination, Class 12.  
Percentage – 96.50%
- 2012 **Anand Bhawan High School, Barabanki**,  
The Indian Certificate of Secondary Education(ICSE), Class 10.  
Percentage – 92.40%

## Experience

- September 2019– **Software Engineer | Language**, SAMSUNG RESEARCH HQ, Seoul, South Korea.  
Machine Translation Group.  
  - Currently working with the research group tackling problems related to Machine Translation
  - Generated more verbose non-span based answers using words from out of vocabulary
- May 2018–July 2018 **Natural Language Processing Intern**, SAMSUNG RESEARCH HQ, Seoul, South Korea.  
Generating well-formed answers for AI assistants and chatbots.  
  - Reached the top of leaderboard for MICROSOFT'S MS MARCO Intermediate challenge.
  - Generated more verbose non-span based answers using words from out of vocabulary
  - Results published on Samsung Newsroom [website](#) and many other [AI/ NLP](#) blogs
  - Modified the existing ConZNet architecture as per the dataset to speed up the processes
  - Reached Advanced level proficiency in the internal assessment through Samsung's Software tests
- May 2017–July 2017 **Research Intern**, INDIAN SPACE RESEARCH ORGANIZATION-IITK SPACE CELL, Kanpur, India.  
STTC + Total Variation based Robust Multimedia Reconstruction.  
  - Incorporated the bounded variation property of images into Space Time Trellis Codes
  - Designed a single novel joint decoder for both for maximum likelihood and total variation metric
  - Established the superiority of joint algorithm based on theoretical STTC bounds and PSNR results
- May 2019–July 2019 **Machine Learning & Development Intern**, POCKETFM, Bengaluru, India.  
Incorporating new search/ recommendation and backend monitoring features in the Hindi Podcast Application  
  - Deployed a centralized back-end logging system(ELK stack) to automate the process of monitoring error logs
  - Deployed a shipped, filter an indexing framework, dashboards and a mechanism to provide burst error alerts
  - Made the search language agnostic between hindi, english & hinglish semantically and syntactically
  - Used ALS Matrix factorization on RDD database to build recommendation system for the App

## Awards & Achievements

- June 2019 **Professor Putcha Venketeswarlu Memorial Gold Medal, IIT Kanpur**.  
  - Best academic performance among all the graduating 4-year undergraduate students in the class of 2019
- June 2019 **General Proficiency Medal, IIT Kanpur**.  
  - Best academic performance among all the graduating 4/5 year undergraduate students in the department of Electrical Engineering
- Mar 2019 **Lalit Narain Das Memorial Scholarship, IIT Kanpur**.  
  - Highest CGPA among all the final year UG students in the department of Electrical Engineering
- Feb 2019 **Smt Dharm Vati Garg Scholarship, IIT Kanpur**.  
  - Highest CGPA among all the undergraduate students in the final year across all departments

- Mar 2018 **Anita & Santoshi Mehra Foundation Scholarship, IIT Kanpur.**  
 ○ Highest CGPA among all the pre-final year students in the department of Electrical Engineering
- 2015-2018 **Academic Excellence Award, IIT Kanpur.**  
 ○ Awarded for all three consecutive academic sessions based on annual academic performance
- 2014- 2019 **Academics.**  
 ○ Outstanding(A\*) grade in 19 out of 44 courses done during the undergrad coursework  
 ○ Highest marks in at least 9 courses during the undergrad coursework including courses with over 400 students  
 ○ 99.98 percentile among 1.3 million candidates appearing for Joint Entrance Examination in the year 2015  
 ○ Ranked among top 1% students in India among those appearing for the Indian School Certificate examination
- June 2017 **SURGE, IIT Kanpur.**  
 Received Student's Undergraduate Research Grant for Excellence 2017 at the MWN Lab, IIT Kanpur
- Mar 2018 **ELECTRADE, Techkriti, IIT Kanpur.**  
 Runner Up, National Level on the spot Electronic Circuit building competition

## Projects

- Aug 2017–Nov 2017 **Convolved Neural Network based Real Time Sentiment Analysis, Prof. Purushottam Kar, CSE, IIT Kanpur.**  
 ○ Detects the emotion of the user based on movement of facial muscles taking in webcam feed  
 ○ Achieved an accuracy of over 70% from a set of 6 different emotions in real time  
 ○ Employed Lenet, Mobile Nets and Alex Net for the task, finally AlexNet was used  
 ○ Finds application in deriving **true user reviews** free from implicit biases
- Jan 2018–Apr 2018 **Detecting Semantically similar questions, Prof. Harish Karnick, CSE, IIT Kanpur.**  
 ○ Building a binary classification algorithm which predicts whether two questions are similar or not.  
 ○ Proposed a pre-processing approach based on 'Mental Lexicon' concept from Psycho-linguistics.  
 ○ Self-Implemented Siamese and Erolog network finally gave the best accuracy.  
 ○ Developed linguistic constraints to improve the performance of the existing methods to over 85%.
- July 2018–Jan 2019 **Removing the Sample Bottleneck Constraint from Gaussian Process Regression , Prof. Ketan Rajawat, SpIN Lab, EE, IIT Kanpur.**  
 ○ Aiming to remove the bottleneck due to  $N^3$  dependence of GP updates on the training sample size.  
 ○ Trying to make Gaussian Processes more suitable for online settings.  
 ○ Established the superiority of Parsimonious Online Processes over Sparse Online Gaussian Process
- Aug 2018–Dec 2019 **Coherent Sentence & Paragraph Reordering , Prof. Arnab Bhattacharya, CSE, IIT Kanpur.**  
 ○ To build a data-set for the problem of coherent sentence and paragraph reordering.  
 ○ To design multiple deep-net architectures suitable for the above mentioned task  
 ○ Coherent reordering finds applications in multi-document summarisation and even QA systems.
- Feb 2019–Apr 2019 **Image Processing: Object Detection & Analysis, Prof. KS Venkatesh, EE, IIT Kanpur.**  
 ○ To detect simple shapes and objects from an Image using only bottom up IP techniques  
 ○ To analyze the objects and output basic features like shape and dimension
- July 2018–Jan 2019 **Kernel Approximation Techniques, Prof. Ketan Rajawat, EE, IIT Kanpur.**  
 ○ To analyze kernel approximation techniques & to extend their application in constrained settings  
 ○ Got credit for extraordinary work done during the term paper under the course EE604

## Skills

- Languages Python, C/C++, Java
- Frameworks Keras, Tensorflow, Apache Spark: PySpark, Redis
- Software/ Packages MATLAB, Android Studio, Arduino IDE, Processing

## Relevant Courses

- Machine Learning Introduction to Machine Learning, Introduction to Natural Language Processing, Data Mining, Convex Optimization, Image Processing
- Cognitive Science Foundations of Cognitive Science, Neurobiology, Human Perceptual Processes, Computational Cognitive Science, Psychology of Language

Electrical Engineering	Digital Signal Processing, Principles of Communication, Communication Systems: Information Theory, Coding Theory, Introduction to Wireless Communication, Signals-Systems & Networks, Introduction to Electronics, Microelectronics, Digital Electronics, Control Systems Analysis, Electromagnetic Theory, Power Systems
Mathematics	Probability & Statistics, Linear Algebra, Differential Calculus, Ordinary/ Partial Differential Equations, Complex Variables(Calculus)
Humanities	Introductory Sociology, Introduction to Economics, Social Psychology

## Teaching

- Jan 2019- **Electrical Engineering Lab, IIT Kanpur, Teaching Assistant, EE381A, Prof. Baquer Mazhari.**  
 Apr 2019
  - Compiled resources related to EC experiments to encourage student choose projects ambitiously
  - Mentored students during one-on-one interactions for project related queries
- Apr 2016- **Counselling Service, IIT Kanpur, Academic Mentor, ESC101A, Fundamentals of Computing.**  
 Apr 2017
  - To mentor freshmen by conducting classes at Institute and Hostel level in a basic programming course
  - Held one-to-one mentoring sessions for 5 students facing serious issues in the course

## Extra Curriculars

- Feb 2020- **IIT- Alumni Association, South Korea, Vice President, Operations.**  
 Present
  - Responsible for website management and event planning in the organisation
- Feb 2017- **Counselling Service, IIT Kanpur, Member, Core Team Operations.**  
 Mar 2018
  - Helped(at an individual level) over a dozen students under academic probation to return to normalcy
  - Led a team of 138 Student Guides while conducting 6-day Orientation Programme for freshers
  - Conducted Personality Enhancement Classes with the help of professional counsellors during the summer break
- July 2018- **Grievance Redressal Committee, IIT Kanpur, Member, Director, IIT Kanpur.**  
 Mar 2019
  - Looked into irregularities during the conduction of general elections to various posts of Student's Gymkhana
  - Recommended cancellation of elections for a couple of executive posts based on the malpractices committed
- Aug 2016-Feb 2017 **Counselling Service, IIT Kanpur, Student Guide.**  
 2017
  - Mentored a group of 8 students from the junior batch throughout their stay at the campus
- Aug 2016-Feb 2017 **Students Placement Office, IIT Kanpur, Company Coordinator.**  
 2017
  - Coordinated the conduction of tests and interviews for a number of firms during the recruitment drive
- Aug 2018-Apr 2019 **Students Gymkhana, IIT Kanpur, Senior Year Mentor.**  
 2019
  - Mentored around 20 freshmen in issues related campus-life during the final year at college
- June 2016- **Antaragni, IIT Kanpur, Senior Executive, Public Relations.**  
 Oct 2016
  - Performed shortlisting and database management of dignitaries and artist for a plethora of events