

# Mohd Abbas Zaidi

B.Tech, Indian Institute of Technology Kanpur(IITK)

Major: Electrical Engineering

Minor: Machine Learning & Cognitive Science

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Homepage

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## ACADEMIC DETAILS

Educational Qualification	Institute/Board	Year	CPI/%
B.Tech	IIT Kanpur	2019	10.0/10.0
Intermediate - ISC	CMS, Gomti Nagar,Lucknow	2014	96.5/100.0
HighSchool - ICSE	Anand Bhawan School, Barabanki	2012	92.4/100.0

## SCHOLASTIC ACHIEVEMENTS

- **Institute Rank 1** in terms of highest aggregate CPI among the UG students graduating from IITK in 2019
- Secured an **All India Rank 414** in IIT-JEE Mains 2015
- Secured an **All India Rank 1657** in IIT-JEE Advanced 2015
- Recipient of the **Academic Excellence Award** for the sessions 2015-16, 17-18 and 2018-19 at IIT Kanpur
- Recipient of the **Anita & Santohsi Mehra Scholarship** for the session 2018 at IIT Kanpur
- Recipient of the **Smt Dharam Vati Garg Award'18** at IIT Kanpur
- Recipient of the **Lalit Narain Das Scholarship'18** at IIT Kanpur

## INTERNSHIP EXPERIENCE

- **Samsung Research Headquarters, Samsung Electronics, Seoul, South Korea** *May'18-Jul'18*  
*Language Understanding Lab | NLP*
  - Reached the ADVANCED level in Samsung Software proficiency coding test
  - **Generating Well Formed Answers for AI Assistants and Chat-bots**
    - \* Reached the **top of the leader-board** for **Microsoft's MS Marco** data-set under Intermediate task
    - \* Generated more verbose non-span based answers using words from out of vocabulary
    - \* Modified the existing ConZNet architecture as per the dataset to speed up the processes

## MAJOR PROJECTS

- **Detecting Semantically similar questions on Quora** *Jan'18-Apr'18*  
*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
  - Based on conditional independence of similarity from higher order words given their specific forms
  - Developed linguistic constraints to improve the performance of the existing methods to over 84%
- **Convolved Neural Network based Real Time Sentiment Analysis** *Aug'17-Nov'17*  
*Prof. Purushottam Kar | CSE | IIT Kanpur*
  - Detects the emotion of the user based on movement of facial muscles taking in his 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 deployed
  - Finds application in deriving **true user reviews** free from external biases from the user's side
- **STTC + Total Variation based Robust Multimedia Reconstruction** *May'17-Dec'18*  
*Prof. Aditya Jagannatham | EE | SURGE IIT Kanpur*
  - 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

- **Removing the Sample Bottleneck Constraint from Gaussian Process Regression**

*July'18-Present*

*Prof. Ketan Rajawat | EE | SPiN Lab | 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 Gaussian processes over Sparse Online Gaussian Process

- **Coherent Sentence & Paragraph Reordering**

*Aug'18-Nov'18*

*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.

## TECHNICAL SKILLS

- **Programming/Scripting Languages:** Python, C, C++, Matlab, Java
- **Tools/Software Packages used:** PyTorch, Tensor Flow, Keras, Arduino IDE, Processing,  $\text{\LaTeX}$
- **Operating Systems used:** Mac, Windows, Ubuntu

## RELEVANT COURSEWORK

Data Structures and Algorithm	Introduction to Machine Learning	Image Processing
Probability & Statistics	Introduction to Computing	Data Mining
Psychology of Language	Introduction to Cognitive Science	Neurobiology
Computational Cognitive Science	Natural Language Processing	Complex Analysis
Human Perceptual Processes	Information Theory & Communication	Linear Algebra

## COMMUNITY SERVICE AND POSITIONS OF RESPONSIBILITY

- **Core Team Operations**

*Counselling Service | Feb'17-present*

- Helped over a dozen students under academic probation to return to normalcy at an individual level
- Led a team of 138 Student Guides and ensured a smooth conduction of a 6-day Orientation Programme
- Conducted Personality Enhancement Classes to help the students develop good communication skills