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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 CGPA 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, Class 10.
Percentage – 92.40%

Experience

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 asessment 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 undergraduate students in the department of Electrical Enginnering at the end of 3rd year

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 Summer 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	**Convoluted 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 Erogol 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, 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-Apr 2019 **Electrical Engineering Lab, IIT Kanpur**, *Teaching Assistant*, EE381A, *Prof. Baquer Mazhari*.
- 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-Apr 2017 **Counselling Service, IIT Kanpur**, *Academic Mentor*, ESC101A, Fundamentals of Computing.
- 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 2017-Mar 2018 **Counselling Service, IIT Kanpur**, *Member, Core Team Operations*.
- Helped(at an individual level) over a dozen students under academic probation to return to normalcy
- 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

July 2018-Mar 2019 **Grievance Redressal Committee, IIT Kanpur**, *Member*, Director, IIT Kanpur.
- Looked into irregularities during the conduction of election to various posts of Student's Gymkhana
- Recommended cancellation of elections for a couple of posts based on malpractices committed

Aug 2016-Feb 2017 **Counselling Service, IIT Kanpur**, *Student Guide*.
- Mentored a group of 8 students throughout their stay at the campus
- Provided emotional assistance to freshmen students by acting as a link between the students and the professional

Aug 2016-Feb 2017 **Students Placement Office, IIT Kanpur**, *Company Coordinator*.
- Coordinated the placement, internship tests and interview processes for a number of recruiters

Aug 2018-Apr 2019 **Students Gymkhana, IIT Kanpur**, *Senior Year Mentor*.
- Mentored around 20 freshmen in issues related to academics, and campus-life in general

June 2016-Oct 2016 **Antaragni, IIT Kanpur**, *Senior Executive, Public Relations*.
- Performed shortlisting and database management of dignitaries and artist for a plethora of events