

Mohd Abbas Zaidi

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Semantic Scholar/Google Scholar

Research Experience

- 2019 - **Software Engineer | NLP Lab**, SAMSUNG RESEARCH HQ, Seoul.
- Present **Neural Machine Translation Group | Speech Translation and Recognition**
- First rank in Simultaneous Translation challenge (low latency) during ACL-IWSLT 2020
 - Established new end-to-end state of the art for the English German MuSTC speech translation task
 - Awarded research, development and innovation awards within Samsung Research
 - Works published in AI conferences, [ACL - IWSLT 2020](#), and ICASSP2021
- Summer 2018 **Natural Language Processing Internship**, 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 pointer network to fetch out of vocabulary words
 - Results published on Samsung Newsroom [website](#) and many other [AI/ NLP](#) blogs
- Summer 2017 **Research Internship**, 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 hierarchical joint decoder to optimize the maximum likelihood and total variation metric
 - Established the superiority of joint algorithm based on theoretical STTC bounds and PSNR results
 - Work was [published](#) in IEEE Access Journal (Volume: 8), April 2020

Industry Experience

- Summer 2019 **Machine Learning & Development Internship**, POCKETFM, Bengaluru, India.
- Machine Learning
- 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
- Backend Development
- 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

Education

- 2015–2019 **Bachelor of Technology, Indian Institute of Technology Kanpur**,
Major - Electrical Engineering, Minors - Machine Learning & Applications | Cognitive Science.
Institute Rank 1(Highest absolute GPA in Class of 2019), GPA – **10.0/10.0**

Awards & Achievements

- June 2021 **Samsung Research Software Innovation Award**, CFO, Samsung Research.
'Speech Translation' project won the Award in the 'Innovative Technology' category.
- Oct 2020 **Samsung Best Paper Award**, Samsung Research.
Won the SBPA Bronze Award for the 'Faster Retranslation using Non-Auto-regressive model, FReTNA'
- May 2020 **Samsung Foldable App Hackathon**, Samsung Research.
Won the 2nd prize after idea-conception, design and development of a new application for Samsung Galaxy Fold
- Jun 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
- Jun 2019 **General Proficiency Medal**, IIT Kanpur.
Best academic performance among all the graduating 4/5 year undergraduate students in EE
- Mar 2019 **Lalit Narain Das Memorial Scholarship**, IIT Kanpur, Highest GPA in EE during Senior Year.
- Feb 2019 **Smt Dharm Vati Garg Scholarship**, IIT Kanpur, Highest GPA overall during Senior Year.

- Mar 2018 **Anita Santoshi Mehra Foundation Scholarship, IIT Kanpur**, Highest GPA in EE during Junior Year.
 Jun 2017 **SURGE, IIT Kanpur**, Undergraduate Research Grant for Summer Internship.

Publications

- Jan 2021 **Task Aware Multi-Task Learning for Speech to Text Tasks**, *ICASSP 2021*, [link](#), * - Equal Contribution.
 Sathish Indurthi*, Mohd Abbas Zaidi*, Nikhil Kumar Lakumarapu, Beomseok Lee, Hyojung Han, Seokchan Ahn, Sangha Kim, Chanwoo Kim, Inchul Hwang
- Jan 2021 **Faster Re-translation Using Non-Autoregressive Model For Simultaneous Neural Machine Translation**, *arxiv*, [link](#).
 Hyojung Han, Sathish Indurthi, Mohd Abbas Zaidi, Nikhil Kumar Lakumarapu, Beomseok Lee, Sangha Kim, Chanwoo Kim, Inchul Hwang
- Jul 2020 **End-to-End Simultaneous Translation System for IWSLT2020 Using Modality Agnostic Meta-Learning**, *ACL 2020*, [link](#).
 Houjeung Han, Mohd Abbas Zaidi, Sathish Indurthi, Nikhil Kumar, Beomseok Lee, Sangha Kim
- Jul 2020 **End-to-End Offline Speech Translation System for IWSLT 2020 using Modality Agnostic Meta-Learning**, *ACL 2020*, [link](#).
 Nikhil Kumar, Beomseok Lee, Sathish Indurthi, Houjeung Han, Mohd Abbas Zaidi, Sangha Kim
- May 2020 **Hierarchical Trellis Based Decoder for Total Variation Sequence Detection (TVSD) in Space-Time Trellis Coded (STTC) Wireless Image/Video Communication**, *IEEE Access Journal*, [link](#).
 Ankit Kudeshia, Mohd Abbas Zaidi, Aditya Jagannatham, Chandra Prakash

Undergraduate Research

- Fall 2018 **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

Coursework

- ML & AI Introduction to Machine Learning, Introduction to Natural Language Processing, Data Mining, Convex Optimization, Image Processing
- Cog. Sci Foundations of Cognitive Science, Neurobiology, Human Perceptual Processes, Computational Cognitive Science, Psychology of Language
- EE 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
- MATHS Probability & Statistics, Linear Algebra, Differential Calculus, Ordinary/ Partial Differential Equations, Complex Variables(Calculus)
- Humanities Introductory Sociology, Introduction to Economics, Social Psychology

Teaching & Mentoring

- Jan 2019- **Electrical Engineering Lab, IIT Kanpur**, *Teaching Assistant*, EE381A, *Prof. Baquer Mazhari*.
 Apr 2019 ○ Mentored students during the project component of the course
 ○ Compiled resources related to Electronic Circuit experiments for the project component of the course
- Apr 2016- **Fundamentals of Computing, IIT Kanpur**, *Academic Mentor*, ESC101A, Counselling Service.
 Apr 2017 ○ To mentor freshmen by conducting classes at Institute and Hostel level for introductory programming course
 ○ Held one-to-one mentoring sessions for students with unsatisfactory performance in the course
- Feb 2017- **Counselling Service, IIT Kanpur**, *Member, Core Team Operations*.
 Mar 2018 ○ Mentored the students placed under academic probation by the institute to help them return to normalcy
 ○ Mentored a group of 8 students from the junior batch throughout their stay at the campus
 ○ Conducted Personality Enhancement Classes with the help of professional counsellors during the summer break