Mohd Abbas Zaidi

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Homepage/Linkedin
Semantic Scholar/Google Scholar

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** (= 4.0/4.0)
English Proficiency: GRE - 330/340 (160V + 170Q) - 4.5/6 (W) | Toefl 119/120

Research Experience

2019 - Present **Software Engineer | NLP Lab**, Samsung Research HQ, Seoul.
Neural Machine Translation Group | Speech Translation and Recognition
- First rank in the simultaneous translation challenge (low latency regime) during ACL-IWSLT 2020.
- Established new end-to-end state of the art for the English German MuSTC speech translation task.
- Received multiple internal **awards**-
  - **Research:** Samsung Best **Research** Paper Award - Bronze for FRetNA
  - **Development:** Samsung Foldable App Hackathon - Runner-up
  - **Innovation:** Samsung software Innovation award winner
- Works published in ACL - IWSLT 2020, and ICASSP2021, submitted to ICLR 2022 and ICASSP 2022.

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 QA challenge.
- Generated verbose non-span based answers using ConZNET architecture .
- Results featured on Samsung Newsroom and other AI/ NLP web-forums.

Summer 2017 **Research Internship**, Indian Space Research Organization-IITK Space Cell, Kanpur, India.
Prof. Aditya Jagannatham | 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.
- Used viterbi algorithm at the unit level and pixel level to jointly optimize both the metrics
- 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 a 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 the Elastic-Logstash-Kabana stack to visualize the backend and provide burst error alerts.

Publications

* - Equal Contribution

Oct 2021 **Decision Attentive Regularization to Improve Simultaneous Speech Translation Systems**, *arxiv*, ICASSP 2022 (under review).
Mohd Abbas Zaidi*, Beomseok Lee*, Nikhil Kumar Lakumarapu, Sangha Kim, Chanwoo Kim

Sep 2021 **Infusing Future Information into Monotonic Attention Through Language Models**, *arxiv*, ICLR 2022 (under review).
Mohd Abbas Zaidi*, Sathish Indurthi*, Beomseok Lee, Nikhil Kumar Lakumarapu, Sangha Kim

Jan 2021 **Task Aware Multi-Task Learning for Speech to Text Tasks**, *ICASSP 2021*, link.
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

Awards & Achievements

Jun 2019 **Prof. Putcha Venketeswarlu Memorial Gold Medal**, *IIT Kanpur*, Highest GPA in the Class of 2019.

Jun 2019 **General Proficiency Medal**, *IIT Kanpur*, Highest GPA in EE in the Class of 2019.

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.

2015-2018 **Academic Excellence Award**, *IIT Kanpur*, Awarded for three consecutive years.

Jun 2017 **SURGE**, *IIT Kanpur*, Undergraduate Research Grant for Summer Internship.
Received research grant for the summer internship at ISRO-IITk Space cell.

Undergraduate Projects

Fall 2018 **Parsimonious Online Gaussian Process (POG) Regression**,
Research Project (report) at SpIN Lab, Prof. Ketan Rajawat, EE, IIT Kanpur.
- Analyzed various aspects of POG, a technique which enables Online Gaussian Process
  - POG exhibits an inherent bias towards picking outliers and discarding non-corrupt data points.
  - Unlike other methods, the discarded points were not used to increase the confidence.
- Established the superiority of Parsimonious Online Gaussian Processes over Sparse Online Gaussian Process.

Fall 2017 **Convoluted Neural Network based Real Time Sentiment Analysis**,
Course Project - Intro to ML, Prof. Purushottam Kar, CSE, IIT Kanpur.
- Used AlexNet to detect the emotion of the user based using the incoming video stream.
- Achieved an accuracy of over 70% from a set of 6 different emotions in real time.

Spring 2018 **Detecting Semantically similar questions**,
Course Project - Intro to NLP, Prof. Harish Karnick, CSE, IIT Kanpur.
- Built a binary classification algorithm to predict whether two questions are the same.
- Proposed a pre-processing approach based on 'Mental Lexicon' concept from Psycho-linguistics.
- Used Siamese and Erogol networks to achieve an accuracy of over 85%.

Fall 2018 **Coherent Sentence & Paragraph Reordering**,
Course Project - Data Mining, Prof. Arnab Bhattacharya, CSE, IIT Kanpur.
- Built a data-set for the problem of coherent sentence and paragraph reordering.
- Used LSTM-based encoder-decoder to reorder the sentences and form a paragraph.

Teaching

Spring 2019 **Electrical Engineering Lab, IIT Kanpur**, *Teaching Assistant*, EE381A, *Prof. Baquer Mazhari*.
- Mentored student-projects during the EE lab course in the electronic circuit component.

Apr 2016-Apr 2017 **Fundamentals of Computing, IIT Kanpur**, *Academic Mentor*, ESC101A, Counselling Service.
- Conducted institute-wide lectures and doubt clearing sessions for the introductory programming course.