Mohd Abbas Zaidi
Engineer, NLP Lab, Samsung Research HQ, Seoul

✉ mzaidi59@gmail.com
🖹 mzaidi59.github.io
scholar.google.com/citations?user=i_cSaKgAAAAJ

Education

2015–2019 **Bachelor of Technology, Indian Institute of Technology**, *Kanpur*.
Major - Electrical Engineering, Minors - Machine Learning & Applications | Cognitive Science.
GPA – **10.0/10.0** | **Institute Rank 1** | **Gold Medalist** (Highest GPA across all majors).
English Proficiency: GRE - 330/340 (160V + 170Q) - 4.5/6 (W) | Toefl 119/120

Research Interests

○ Multitask Learning, Language Grounding, Multimodal NLP, Neural Information Retrieval.

Publications (decreasing order of contribution)   * - 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, Sangha Kim, Chanwoo Kim

Sep 2021 **Infusing Future Information into Monotonic Attention Through Language Models**, *arxiv*, NAACL 2022 (to be submitted).
Mohd Abbas Zaidi*, Sathish Indurthi*, Beomseok Lee, Nikhil Kumar, Sangha Kim

Jan 2021 **Task Aware Multi-Task Learning for Speech to Text Tasks**, *ICASSP 2021*, link.
Sathish Indurthi*, **Mohd Abbas Zaidi***, Nikhil Kumar, Beomseok Lee, Hyojung Han, Seokchan Ahn, *et al.*

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

Jul 2020 **End-to-End Simultaneous Translation System for IWSLT2020 Using Modality Agnostic Meta-Learning**, *ACL-IWSLT 2020*, link.
Houjeung Han, **Mohd Abbas Zaidi**, Sathish Indurthi, Nikhil Kumar, Beomseok Lee, Sangha Kim

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, Beomseok Lee, *et al.*

Jul 2020 **End-to-End Offline Speech Translation System for IWSLT 2020 using Modality Agnostic Meta-Learning**, *ACL-IWSLT 2020*, link.
Nikhil Kumar, Beomseok Lee, Sathish Indurthi, Houjeung Han, **Mohd Abbas Zaidi**, Sangha Kim

Research Experience

2019 - Present **Software Engineer | NLP Lab, Samsung Research HQ**, Seoul, South Korea.
Information Retrieval & Machine Translation Group
○ 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 2020 - Bronze for FRetNA.
  - **Development:** Samsung Foldable App Hackathon 2020 - Runner-up.
  - **Innovation:** Samsung Software Innovation Award 2021 - Winner.
○ **Patents:** Submitted four patents related to machine translation and user experience.
○ **Papers:** Published in ACL - IWSLT 2020 and ICASSP2021, submitted to ICASSP 2022.

Summer 2018 **Natural Language Processing Internship, Samsung Research HQ**, Seoul, South Korea.
Generating well-formed answers for AI assistants and chatbots.
○ Top of leaderboard for Microsoft's MSMARCO Intermediate QA challenge (June 2018).
○ 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.
- 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, and 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.

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 Processes.
    - We found the algorithmic aspects which hampered the performance of POG.
    - We found issues with the comparison metrics and experimental settings between the two algorithms.
- 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 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.
- Proposed a pre-processing approach based on 'Mental Lexicon' to improve duplicate question detection.
- 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 mechanism to reorder the sentences and form a paragraph.

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.
June 2015	**JEE**, 99.98 percentile among 1.3 million students across India in the university entrance exam..
Jun 2017	**SURGE**, *IIT Kanpur*, Undergraduate Research Grant for Summer Internship.

Teaching/Volunteering

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.

Feb 2017- Mar 2018 **Counselling Service, IIT Kanpur**, *Member, Core Team Operations*.
- Mentored students under academic probation and linked them to professional counsellors.