Aman Khullar

https://amankhullar.github.io

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Education

Georgia Institute of Technology — Atlanta, GA
Master's in Computer Science (current GPA: 4.00/4.00) — *Aug. 2021 – Present*
Coursework: Graduate Algorithms, Machine Learning, NLP, Big Data Systems

Netaji Subhas Institute of Technology, University of Delhi — New Delhi, India
Bachelor of Engineering in Information Technology — *Aug. 2015 – May 2019*
First Class with Distinction (CGPA: 8.65/10.00)

Experience

Georgia Institute of Technology — Atlanta, GA
Graduate Research Assistant, T+ID lab (advisor: Prof. Michael Best) — *Jan. 2022 – Present*

- Utilizing synthetic data generation to detect hate-speech in low-resource languages

Gram Vaani — Gurugram, India
Research Associate (advisor: Prof. Aaditeshwar Seth) — *Mar. 2020 – Jul. 2021*

- Developed automatic content moderation tools for in-house moderators, voice based surveys for user data collection, automatic question-answering system for IVR platforms — deployed in a product used by 800,000 rural households
- Conducted quantitative and qualitative evaluation of the effect of introducing AI for automating Interactive Voice Response (IVR) based voice applications — published and presented the results in 3 peer-reviewed publications
- Developed MLOps pipeline for continuous model training — triggered on accuracy of ML model drifting below 95%
- Awarded the Gram Vaani Star Performer award for two consecutive quarters

Product Labs, IIIT Hyderabad — Hyderabad, India
Research Engineer (advisors: Prof. Manish Shrivastava and Mr. Prakash Yalla) — *Jul. 2019 – Feb. 2020*

- Developed a deep learning based document question-answering model to extract answers from a group of documents; achieved 3 seconds response time and 90% accuracy over 137 page document — evaluated by Indian Army
- Productized the research — model formed core product for Subtl.ai's first instance shipped to 2,500 users

Selected Publications

- **A. Khullar**, et al. 2021. Costs and Benefits of Conducting Voice-based Surveys Versus Keypress-based Surveys on Interactive Voice Response Systems. *ACM COMPASS* [pdf, talk].
- **A. Khullar**, et al. 2021. Early Results from Automating Voice-based Question-Answering Services Among Low-income Populations in India. *ACM COMPASS* [pdf, talk].
- **A. Khullar*** and U. Arora*. 2020. MAST: Multimodal abstractive summarization with trimodal hierarchical attention. *EMNLP Workshop on NLP Beyond Text* [pdf] (*=equal contribution).

Projects

- **HUMAN: Hate-speech Understanding by Multimodal Attention Network**: Explained the predictions MultiModal BiTransformer Model (Kiela et al.), improved model accuracy by 1.2% using image autoencoder [link]
- **Autonomous Mars Rover**: Co-founder and team lead of ARES, NSIT's first Mars rover team — ranked among top 71 and 30 teams in University and European Rover Challenges respectively
- **MultiModal BiDirectional Attention Flow model**: Augmented a machine comprehension model (BiDAF) to be used for multimodal summarization as part of my Bachelor's thesis — awarded 3rd highest grade in the batch

Awards and Honors

- **AllenNLP Hacks 2021**: Impact Award runner-up to help identify communities subjected to hate speech
- **Program Committee**: NLPBT — EMNLP 2020, The Web Conference 2021; Shadow PC — ACM COMPASS 2021
- **Google Research India AI Summer School**: Among 150 candidates selected in India for AI summer school 2020
- **Harvard College Project for Asian and International Relations**: Among 300 delegates selected for HPAIR 2019
- **India's Brightest 33 Engineers**: Among the cohort of 33 students selected by the Economic Times in 2018 [talk]

Skills

- **Languages and Frameworks**: Python, C/C++, PyTorch, TensorFlow, Git, MySQL, Django