

# Aman Khullar

<https://amankhullar.github.io>

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## EDUCATION

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### Georgia Institute of Technology

Master's in Computer Science (current GPA: 4.00/4.00)

Coursework: Graduate Algorithms, ML, NLP, AI Storytelling, Big Data

Atlanta, GA

Aug. 2021 – Present

### Netaji Subhas Institute of Technology, University of Delhi

Bachelor of Engineering in Information Technology

First Class with Distinction (CGPA: 8.65/10.00)

New Delhi, India

Aug. 2015 – May 2019

## EXPERIENCE

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### Amazon

Applied Scientist Intern, Alexa Hybrid Science

- Improved the training recipe to incorporate synthetic data to fine-tune speech recognition models
- Quantitatively evaluated role of synthetic speech and loss modification on speech recognition accuracy

Virtual, GA

Aug. 2022 – Dec. 2022

### Apple

AI/ML Intern, Siri Text-To-Speech

- Improved end-to-end speech synthesis with diffusion models using advanced encoder architectures

Seattle, WA

May 2022 – Aug. 2022

### Georgia Institute of Technology

Graduate Research Assistant, T+ID lab (advisor: Prof. Michael Best)

- Developed a contextual entity replacement pipeline to generate synthetic training data in low resource languages — taking cues from hate speech data in English — to facilitate training of hate speech detection classifiers

Atlanta, GA

Jan. 2022 – May 2022

### Gram Vaani

Research Associate (advisor: Prof. Aaditeshwar Seth)

- 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

Gurugram, India

Mar. 2020 – Jul. 2021

## SELECTED PUBLICATIONS

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- 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

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- Knowledge Graphs + Language Models**: Combined a knowledge graph with the GPT-J model to reduce inconsistencies in generated text by rejecting contradicting sentences using NLI and enhanced prompting [[video](#)]
- Digital Scribes**: Worked with Stanford Healthcare AI Applied Research team to understand the gaps in current digital scribes technology and how we can improve upon them – consulted the Doctors in resident from an NLP standpoint
- 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](#)]

## AWARDS AND HONORS

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- Computing For Good Fellowship**: Among two students selected for C4G fellowship at Georgia Tech for Spring 2023
- Academic Service**: Reviewer for CHI 2023, IET CV Journal 2022, NLPBT workshop in Web Conference & EMNLP
- AllenNLP Hacks 2021**: Impact Award runner-up to help identify communities subjected to hate speech
- Google Research India AI Summer School**: Among 150 candidates selected in India for AI summer school 2020
- India's Brightest 33 Engineers**: Among the cohort of 33 students selected by the Economic Times in 2018 [[talk](#)]

## SKILLS

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