

# Janvijay Singh

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## EDUCATION

### GEORGIA TECH

#### MS IN COMPUTER SCIENCE

May 2023 | Atlanta, GA

Specialization: Machine Learning

GPA: 3.91 / 4.00

### IIT VARANASI

#### BTECH IN COMPUTER SCIENCE

May 2018 | Varanasi, India

GPA: 9.62 / 10.00

Class Rank: 2/65

## LINKS

Github:// iamjanvijay

Twitter:// @iamjanvijay

LinkedIn:// iamjanvijay

## SKILLS

### PROGRAMMING

Languages:

Bash • Python • C++ • C •

Objective-C • Java

Technologies:

TensorFlow • PyTorch • JAX •

MXNet • CUDA • Pandas • NumPy

• Django • Flask • Docker

## COURSEWORK

### GRADUATE

Deep Learning\*

Machine Learning\*

Natural Language Processing\*

Computational Data Analysis\*

Machine Learning Theory

Advanced Algorithms and

Uncertainty

Computational Social Science

Languages and Computers

\* indicates Teaching Assistant

### UNDERGRADUATE

Computer Programming and Linux\*

Artificial Intelligence

Computer Vision

Intelligent Computing

Theory of Computation

Optimisation Techniques

Probability and Statistics

Operation Research

\* indicates Teaching Assistant

## EXPERIENCE

### VERNEEK AI | MACHINE LEARNING RESEARCHER/ENGINEER

June 2023 - Present | New York, NY

- Leading applied research efforts to craft personalized e-commerce search.
- Designing a search system that harnesses both explicit and implicitly stated user preferences, while also allowing users to modify preferences using text.

### WALMART GROUP | APPLIED SCIENTIST II

Aug 2018 - July 2021 | Bangalore, India

- Conducted applied research to develop a Voice-Assistant for E-Commerce.
- Speech Recognition for Indic Languages: Improved Speech Recognition for Indic Languages using modified CTC-based neural models. Achieved a ~38% relative WER improvement via joint-fusion of neural language models and Transducer loss.
- Speech Synthesis for Indic Languages: Benchmarked architectures like Tacotron2, WaveGlow, WaveNet and ClariNet. Innovated with multilingual training and learnable sentence-style embeddings for better conversational prosodies. Outperformed Google and Amazon's APIs, especially in vernacular domains.

### MICROSOFT | SOFTWARE ENGINEERING INTERN

May 2017 - Aug 2017 | Hyderabad, India

- Developed UI dialogs and back-end routines for pivot-table functionality in Microsoft Excel for MacOS. Offered a full-time role for outstanding contributions.

## PUBLICATIONS

- [1] Janvijay Singh, Vilem Zouhar, Mrinmaya Sachan. "Enhancing Textbooks with Visuals from the Web for Improved Learning". *EMNLP* 2023.
- [2] Janvijay Singh, Mukund Rungta, Diyi Yang, Saif M. Mohammad. "Forgotten Knowledge: Examining the Citational Amnesia in NLP". *ACL* 2023.
- [3] Janvijay Singh, Fan Bai, Zhen Wang. "Entity Tracking via Effective Use of Multi-Task Learning Model and Mention-guided Decoding". *EACL* 2023.
- [4] Mukund Rungta, Janvijay Singh, Saif M. Mohammad, Diyi Yang. "Geographic Citation Gaps in NLP Research". *EMNLP* 2022.

## PROJECTS

- [1] RNN-Transducer Decoder: Optimized prefix-beam search with caching, batching, and 2-D beam pruning. >10x speed-up. Open-sourced CUDA implementation (66 stars).
- [2] RNN-Transducer Loss: Devised diagonal parallelism to reduce time complexity from  $O(T \times U)$  to  $O(T + U)$ . Open-sourced the TensorFlow implementation (45 stars).

## ACHIEVEMENTS

- 2023 Honorable Mention for Best Paper Award, ACL conference.
- 2022 ETH Zurich Summer Research Fellowship (<0.8% acceptance).
- 2021 Best Team Award at Flipkart for Text-to-Speech excellence in vernacular domain.
- 2020 Winner, FinSBD-2 Task at FinNLP@IJCAI (Prize: USD 1000).
- 2019 Runner-Up, Walmart Data Science Hackathon (Prize: INR 20,000).
- 2017 Candidate Master on Codeforces (Max Rating: 1920).
- 2017 Ranked Top 0.82% globally in Algorithms on Hackerrank.
- 2016 67<sup>th</sup> in ACM ICPC India Regionals (out of 402 teams).