Monisha Jegadeesan

Senior Software Engineer, Google

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Education

2015-2020 **Dual Degree (B.Tech + M.Tech) in Computer Science and Engineering**
Indian Institute of Technology Madras, Chennai, India CGPA: 8.78

Professional Experience

Dec 2022 - Present **Senior Software Engineer, Google LLC, New York**
- Driving reliability efforts in Google Sheets' desktop app via correctness-verified memory-saving infrastructure and storage optimizations for better performance and lower crash rate in large sheets.
- Advising efforts to identify memory bottlenecks, and devise and roll out optimizations to improve memory consumption in the Google Sheets Android app.
- [Till Nov 2024] Drove Android client infrastructure efforts in the Keep note-taking app to (i) support local and server storage of embedded media and, (ii) optimal background generation of metadata to power core functionalities.

Aug 2020 - Nov 2022 **Software Engineer, Google India, Bangalore**
- Developed intelligence features for the Google Workspace Editors (Docs, Slides, etc) with expertise on the products' client-side software, supporting tools and libraries, and natural language processing infrastructure.
- Developed base infrastructure for user-facing features such as multi-language spellcheck in encrypted documents, and writing style suggestions for English text using web technologies such as Web Assembly, Emscripten, and Closure.

May - July 2019 **Software Engineering Intern, Google India, Bangalore**
Infrastructure backing the user interface for the Google Docs text auto-correction feature.

May - July 2018 **Research Intern, Big Data Experience Labs, Adobe Research, Bangalore**
Framework to create 3D augmented reality scenes from natural text via neural predictions of object sizes and positions.

Research Experience

Sep 2019 - May 2020 **Paraphrase Generation with a Bilingual Model and Continuous Embeddings**
Master's Thesis, ***Language Technologies Institute, Carnegie Mellon University***
Machinated a novel technique for paraphrase generation using the von Mises-Fisher (vMF) Loss on a transformer network with bilingual data for zero-shot paraphrasing, superior to that of the log-likelihood model. Guided by *Prof. Yulia Tsvetkov*.

Publications and Patents

[Publication and Poster] **Improving the Diversity of Unsupervised Paraphrasing with Embedding Outputs (Paper, Poster)**
Monisha Jegadeesan*, Sachin Kumar, John Wieting, Yulia Tsvetkov*
In **Workshop on Multilingual Representation Learning**,
The 2021 Conference on Empirical Methods in Natural Language Processing (**EMNLP 2021**)

[Publication and Poster] **Adversarial Demotion of Gender Bias in Natural Language Generation (Paper, Poster)**
Monisha Jegadeesan
In **ACM CODS-COMAD 2020** - Young Researchers' Symposium

[Poster] **ARComposer: Authoring Augmented Reality Experiences through Text (Poster)**
Sumit Kumar, Paridhi Maheshwari, ***Monisha Jegadeesan****, Amrit Singhal, Kush Kumar Singh, Kundan Krishna*
In ACM User Interface Software and Technology Symposium 2019 (**ACM UIST 2019**)

[Filed Patent] **Visualizing Natural Language through 3D Scenes in Augmented Reality**
Sumit Kumar, Paridhi Maheshwari, ***Monisha Jegadeesan****, Amrit Singhal, Kush Kumar Singh, Kundan Krishna*
Filed at the US PTO (Application Number: 16/247,235)

[Publication and Poster] **Leveraging Ontological Knowledge for Neural Language Models (Paper, Poster)**
Ameet Deshpande, ***Monisha Jegadeesan***
In **ACM CODS-COMAD 2019** - Young Researchers' Symposium

Teaching Experience

Jan - May 2020 **Natural Language Processing - Course Teaching Assistant,** *Indian Institute of Technology Madras*
- Designed and evaluated theoretical and practical assignments on various topics in Natural Language Processing.
- Presented lectures on Edit Distance and the Cocke-Young-Kasami (CYK) algorithm, to a class of 70 students.
- Mentored sixteen pairs of students on research projects, with supervision through regular team-wise progress meetings.