Tushita Singh

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Research Interest:

• Advanced NLP • Machine Learning • Data Analytics • Software Solutions

Impact: 1 Industrial research proposals, 1 technical report, & 2 scientific publications (Journal & Workshop proceedings), 1 awards

Experience

Researcher/System Engineer **Tata Research Innovation Labs** **September 2020 — September 2022**

- Topic 1: Generated templates of recipes, weight normalization of the recipe ingredients. Insights generation of components involved in formulated recipes.
- Topic 2: Recommended expert with useful and relevant information for their choices in designing a new variant

Researcher (Intern) **Tata Research Innovation Labs** **June 2019 — December 2019**

- Topic 1: Data processing of unstructured text of formulated recipes. Extracted semi-structured data.
- Topic 2: Analyzed the process text. Recommended expert with useful and relevant information for their choices in designing a new variant.

Education

Master of Science, Computer Science & Engineering, **Sept 2022 - Sept 2024**

University of Massachusetts, Amherst, USA

- Graduate Coursework: Information Retrieval, Machine Learning, System for Data Science, Advance Algorithms

Bachelor of Technology, Computer Science & Engineering, **June 2016 — June 2020**

Indian Institute of Information Technology, Nagpur (IIITN), India , GPA: 8.15/10.00

- Graduate Coursework: Data Structure, Software Engineering, Operating systems, Linear Algebra

Publications

1. Sagar Sunkle, Deepak Jain, Krati Saxena, Ashwini Patil, **Tushita Singh**, Beena Rai, and Vinay Kulkarni. "Integrated "Generate, Make, and Test" for Formulated Products using Knowledge Graphs". In: *Data Intelligence* (2021), pp. 340–375
2. Krati Saxena, **Tushita Singh**, Ashwini Patil, Sagar Sunkle, and Vinay Kulkarni. "Leveraging Wikipedia Navigational Templates for Curating Domain-Specific Fuzzy Conceptual Bases". In: *Proceedings of the Second Workshop on Data Science with Human in the Loop: Language Advances*. Association for Computational Linguistics, 2021

Projects

Word Sense Disambiguation, • NLP • Skim-gram model • Pytorch

Fall 2020 | Undergrad Thesis |IIITN **Advisor** *: Dr. Pooja Jain*

- *(Dataset):* SemEval-2013 includes 50 terms containing 20 verbs, 20 nouns and 10 adjectives
- *(Technique):* I have proposed a system that represents the context of each target word by using high probability substitutes given by the statistical language model. These substitute words and their probability create word pairs projected over a bag of words. The projection with the highest probability is given as the sense of the word.

Waste Detection • Image Processing • Classification • Keras

Fall 2018 | GOOGLE Hackathon Project |Google Office Hyderabad

- *(Dataset):* waste segregation; the general categorization that involves separating waste into dry-waste [recyclables] and wet-waste.
- *(Technique):* Trained MobileNet model to predict waste type given a image, made use of mobile camera to create application.

Operator Safety Gear • Image Processing • Object Detection • Keras

FALL 2018 | IndNX4.0 powered by CII | TCS

- *(Dataset):* Dataset created for factory workers with different kinds of safety gears
- *(Technique):* Implemented software to detect safety gears worn by workers in the factory using Image Processing model and maintaining a database. Also alerts authority using email and messages

Skills

Programming	Python, Latex, C++/C, Javascript, JAVA, HTML/CSS, Software Engineering, Web Development
Machine Learning	Pytorch, Keras, Tensorflow 2.0, Advanced NLP, CV, IR, Data Science
Coursework	Business Analytics, Information Retrieval, Software Engineering, Advanced Algorithms

Awards & Honors

2022-23	Web Team member for Voice of Data Science(UMass); Participated in HackerHER
2018-19	Conducted ML workshop; **3rd** place in Women Techmakers Hackathon; Participated in IndNX4.0 powered by CII
2016-17	Technical Committee head; Hostel In charge; Tantrafestia(Technical fest) organizer