

Shivanshu Gupta

Graduate Student Researcher, UC Irvine
Advisor: *Prof. Sameer Singh*

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RESEARCH INTERESTS

Semantic Parsing, Compositional Generalization, In-Context Learning, Multi-Step Reasoning, Arithmetic Reasoning, Question Answering, Knowledge Distillation, NLP, Machine Learning

EDUCATION

University of California Irvine

PhD, Computer Science

• **Dean's Award**

United States

Sept '20 - Present

Indian Institute of Technology Delhi

Dual Degree - B.Tech. & M.Tech., Computer Science and Engineering

• Masters Department Rank: **1**. • Multiple **Semester Merit Awards**.

India

Jul '13 - Jun '18

PUBLICATIONS

Successive Prompting for Decomposing Complex Questions. Dheeru Dua, Shivanshu Gupta, Sameer Singh, Matt Gardner. *EMNLP 2022*.

Structurally Diverse Sampling Reduces Spurious Correlations in Semantic Parsing Datasets. Shivanshu Gupta, Matt Gardner, Sameer Singh. *Findings of ACL (EMNLP) 2022*. [Paper]

Unobserved Local Structures Make Compositional Generalization Hard. Ben Bogin, Shivanshu Gupta, Jonathan Berant. *EMNLP 2022*. [Paper]

COVR: A Test-Bed for Visually Grounded Compositional Generalization with Real Images. Ben Bogin, Shivanshu Gupta, Matt Gardner, Jonathan Berant. *EMNLP 2021*. [Paper] [Website]

EXPERIENCE

RESEARCH

Graduate Student Researcher

Sept '20 - Present, UC Irvine

• UCI-NLP Research Group. • Working on in-context learning for semantic parsing and multi-step reasoning.

Applied Scientist Intern

Jun '22 - Sep '22, Amazon Alexa AI, Sunnyvale

• Web Information Team. • Developed Cross-Lingual Knowledge Distillation techniques to improve the performance of Answer Sentence Selection (AS2) models for low-resource languages.

Applied Research Engineer - Machine Learning

Oct '18 - Jul '20, LinkedIn, Bangalore

Worked as a Research Fellow at Microsoft Research India on improving LinkedIn's Job Recommendation pipeline using Extreme Multi-label Classification algorithms.

ENGINEERING

Software Development Engineering Intern

May - Jul '17, Amazon, Delhi

• Last Mile Technology Team. • Enabled the externalization of Amazon's Last Mile Package Delivery technology.

Software Development Engineering Intern

May - Jul '16, Amazon, Bangalore

• Machine Learning - Seller Service Team. • Developed pipeline abstractions for PySpark to enable rapid prototyping of machine learning algorithms.

TEACHING

Teaching Assistant

Apr '22 - Jun '22, UC Irvine

Teaching Assistant for the Natural Language Processing course.

Teaching Assistant

Jul '17 - May '18, IIT Delhi

Teaching Assistant for three courses: Data Structures, Programming Languages and Artificial Intelligence.

AWARDS & ACHIEVEMENTS

- 2017 **Outstanding Contribution Award**, *Training & Placement Cell, IIT Delhi.*
2015 **Summer Undergraduate Research Award**, *Industrial R&D Unit, IIT Delhi.*
2013 **All-India-Rank of 189** in IIT-JEE Advanced among over 150,000 candidates.
2013 **KVPY Scholarship**, *Department of Science & Technology, Government of India.*
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PROJECTS

Zero-shot Learning in Extreme Multi-label Classification (XMLC) using Label Features

Advisor: Dr. Prateek Jain

LinkedIn & Microsoft Research

Extended Parabel, a label-tree based XMLC algorithm, to generalise to new labels post-training using label features.

Neural Model for Question Answering on Wikipedia Tables

[\[Master's Thesis\]](#)

Advisor: Prof. Mausam

IIT Delhi

Proposed improvements to the state-of-the-art Neural Semantic Parser for the WIKITABLEQUESTIONS dataset.

Predicting User Action in a Dating Website

Advisor: Prof. Mausam

IIT Delhi

Designed a Markov Network based model for predicting whether a user will 'like' or 'hide' another user.

Framework for Cloud Storage Consolidation, Privacy and Availability

[\[App\]](#) [\[Report\]](#)

Advisor: Prof. Huzur Saran

IIT Delhi

Developed a decentralised framework to simulate a reliable, secure, and consolidated storage over multiple cloud storages over multiple heterogeneous cloud storages.

SERVICE

Student Volunteer, EMNLP 2021

Nov '21, Punta Cana

In person volunteer for the LAW-DMR workshop.

Technical Team Leader, Training & Placements Cell

Apr '15 - Apr '17, IIT Delhi

- Redesigned the Training & Placement web portals used to match students and recruiters.
- Formed and led a new Technical Team responsible for managing the web portals.

Technical Coordinator, ACM Student Chapter

Apr '14 - Aug '15, IIT Delhi

Developed the society's website. Organized events focused on the Computer Science community of IIT Delhi.

TECHNICAL SKILLS

Languages: Python, C/C++, Java, Bash, Scala, L^AT_EX

Libraries/Frameworks: PyTorch, AllenNLP, Tensorflow