Manya Bansal

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Research Interests

High-Performance Computing, Compilers, Domain Specific Languages.

Education

2023 – Present — Massachusetts Institute of Technology
PhD in Electrical Engineering & Computer Science
Advisors: Jonathan Ragan-Kelley & Saman Amarasinghe

2019 – 2023 — Stanford University
BS in Mathematics

Publications

PLDI' 25 — Lightweight and Locality Aware Composition of Black-Box Functions
***Manya Bansal**, Dillon Sharlet, Jonathan Ragan-Kelley, Saman Amarasinghe*

PLDI '23 — Mosaic: An Interoperable Compiler for Tensor Algebra
***Manya Bansal**, Olivia Hsu, Kunle Olukotun, Fredrik Kjolstad*
(Distinguished Paper Award)

Posters

SOSP' 24 — Using Debug Hardware to Build Tiny and Efficient Dynamic Kernel Checkers
*Zachary Yedidia, Akshay Srivastan, **Manya Bansal**, Dawson Engler*

Selected Awards

2023 — Distinguished Paper Award, PLDI.

2023 — EECS Alumni Graduate Fellowship, MIT.

2019 — Reliance Dhirubhai Ambani Scholarship, Stanford University.
Full Scholarship for Indian International Students.

2019 — Silver Medalist, Team India, International Philosophy Olympiad.

2019 — Rank 1, Indian Philosophy Olympiad.

Work Experience

Summer 2025	*(Incoming)* Vector and Numerics Team, Apple.
Spring 2023	Research Assistant for Prof. Fredrik Kjostad, Stanford Univeristy.
Summer 2022	Research Assistant for Prof. Dawson Engler, Stanford Univeristy.
Summer 2021	Autonomous Hardware Team Intern, Tesla.

Selected Talks

Sept 2024	Data is all You Need for Fusion *CppCon (C++ Industry Conference)*
Sept 2023	Building an interoperable compiler for Sparse Tensor Algebra *Google ML Compiler Team*
Nov 2022	Tutorial on Sparse Tensor Algebra *NVIDIA*

Teaching experience

Winter 2023	Teaching assistant, CS 140E: Embedded Operating Systems, Stanford University
2021	Tutor, Stanford University Mathematical Organization *Proof-based & applied linear algebra*

Service

PLDI' 25	Artifact Evaluation Committee.
MITPLR' 25	MIT Programming Language Review, Program Committee.
2024 - Present	EECS Communication Lab Fellow.
2024 - 2025	Events Coordinator, Graduate Women in Course 6, MIT.