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## Education

### Stanford University / MS in EE

EECS GPA 4.0/4.0

2015. STANFORD, CALIFORNIA

Worked on Deep Learning for NLP and Computer Vision

### IIT Hyderabad / B Tech (Honors) in EE

GPA 9.18/10.0

2013. HYDERABAD, INDIA

Minor in CS. Specialized in audio and video Information Retrieval.

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## Distinctions

- Featured work in [The Wall Street Journal](#), [New York Times](#), [The Verge](#), [Meta AI Blog](#)
- Institute Gold medal at IIT Hyderabad
- Organized ACM workshops, authored first-author A\* papers
- Ranked 186 out of 1,000,000+ participants in AIEEE 2009
- Ranked 985 out of 500,000+ participants in IIT JEE 2009
- University of Tokyo scholarship for outstanding academics

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## Experience

### Google DeepMind / Senior Staff Research Engineer (L7)

APRIL 2024 - PRESENT, HYDERABAD, INDIA

- Matryoshka LLM research for Gemini and its applications [[KDD paper](#)], achieved xx% improvements in Ads models
- Collaborated on a reward shaping algorithm which achieved xx% thinking tokens compression at neutral quality

### Meta / Senior Staff ML Engineer (L7)

JUNE 2017 - MARCH 2024, MENLO PARK, USA

- Co-led R&D and launch of the first Reinforcement Learning system for fairness in the world: [Meta AI Blog](#), [Whitepaper](#), [KDD paper](#), US Dept of Justice [press release](#)
- [Invented](#) a novel Feature Selection algorithm & widely deployed it across Meta in all ranking models (Ads, Feed, Watch, Reels, Stories) leading to significant (\$x B) impact
- Achieved significant ranking improvements with Multi-modal Transformers in 2018

### BlippAR / Research Scientist (L4)

FEB 2016 - JUNE 2017, MOUNTAIN VIEW, USA

Built an e2e ML system for garment search from mobile photos. Surpassed then SOTA on DeepFashion dataset. Trained a human

pose estimation model, a multi-class detection model using SSD; learned representations for clothing retrieval. Built a garment type classifier from product descriptions using LSTMs.

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## **Selected Publications & Patents**

C.K. Verma\*, A.S. Timmaraju\* et al. "Matryoshka Model Learning for Improved Elastic Student Models." In *Proc. KDD 2025 (Oral)*

A.S. Timmaraju\* et al. "Towards Fairness in Personalized Ads using Impression Variance Aware Reinforcement Learning." In *Proc. KDD 2023 (Oral)*

A.S. Timmaraju and P. Tripathi "Categorical Feature Selection for Ranking Models." *US Patent Publication 18/048793 (2022)*

A.S. Timmaraju, A. Liu, and P. Tripathi. "Addressing Challenges in Building Web-Scale Content Classification Systems." In *Proc. IEEE ICASSP 2020*

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## **Teaching & Community**

- Instructor of "ML Best Practices" class + lab, taught to all new ML Engineers at Meta/Facebook
  - TA at Stanford for Computational Neuroscience (CS 379C), Computer Vision (CS 231A), Linear Dynamical Systems (EE 263)
  - Reviewer for KDD, ICML, ECML PKDD
  - Organized a workshop at ACM Fairness, Accountability and Transparency (FAccT) 2023 conference
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## **Leadership**

- Uber Technical Lead, Meta/Facebook
  - Literary Secretary, Student Gymkhana, IITH
  - Co-Founder & Coordinator, Electronics Club, IITH
  - Core member & Editor, Cepheid, the Astronomy club, IITH
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## **Technical Skills**

**Languages:** Python, C++, JavaScript

**AI Libraries:** PyTorch, JAX, TensorFlow

**Data:** Hive/Hadoop/SQL