Ishan S. Khare

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Education

Stanford University Stanford, CA

B.S./M.S. Computer Science *Expected June 2026*

- **GPA:** 4.0/4.0, *Tau Beta Pi Engineering Honor Society*
- **Selected Coursework:** Machine Learning, Artificial Intelligence, Decision Making Under Uncertainty, Natural Language Processing, Computer Vision, Statistical Inference, General Game Playing, Continuous Mathematical Methods, Modern Algorithms, Applied Matrix Theory, Combinatorics
- **Activities:** Association of Computing Machinery (Officer), Undergrad Research Association (Executive Team)

Experience

Stanford Artificial Intelligence Lab Dec 2023 – present

Graduate Machine Learning Intern *Stanford, CA*

- Research under the guidance of Prof. Christopher Ré as part of HazyResearch.
- Two accepted papers at *Neural Information Processing Systems (NeurIPS)* 2024 conference:
- "WONDERBREAD: A Benchmark for Evaluating Multimodal Foundation Models on Business Process Management Tasks." (arxiv.org/abs/2406.13264).
- "Smoothie: Label Free Language Model Routing." (arxiv.org/abs/2412.04692).

IMC Financial Markets Jun 2024 – Aug 2024

Quantitative Trading Intern *Chicago, IL*

- Learned options theory, market making, trades analysis, systematic and manual mock trading.
- Completing machine learning project for index options VMM (valuation based market making) desk.

Stanford CS Theory Group June 2023 – Dec 2023

Algorithms Research Assistant *Stanford, CA*

- Was accepted to the Stanford CURIS summer research internship program.
- Worked on approximation algorithms for k-means clustering under Profs. Moses Charikar and Aviad Rubinstein.

Projects

Machine Learning for Linguistics | *iskhare.github.io/files/CS224N-paper.pdf* Jan 2024 – Mar 2024

- Methods: RNNs with Attention, fine-tuning transformer-based models, and in-context learning with GPT-4.
- Presented work at CS 224N (NLP with Deep Learning) poster session: *Link to Poster*.

Creating Low-Rank Efficient CNNs | *iskhare.github.io/files/CS131-paper.pdf* Jan 2024 – Mar 2024

- Constrained convolution training to rank-n matrices and performed inference on CIFAR-10 Dataset.
- Reduced parameter count from $O(N^2)$ to $O(N)$ and outperformed PyTorch default convolutions for large kernels.

Statistical Clustering Analysis of Crime Hot-Spots | *arxiv.org/abs/2306.15987* Mar 2023 – June 2023

- Developed metrics to identify 'systemic' crime shaped by redlining within all 25 Philadelphia police districts.
- Advanced to the international finals of the Citadel Datathon.

GyML: Smart Fitness Trainer | *iskhare.github.io/files/GyML-paper.pdf* Sept 2023 – Dec 2023

- Our work performs pose estimation, exercise classification, and feedback for 60 fitness activities.
- Presented work at CS 229 (Maching Learning) poster session: *Link to Poster*.

Honors and Awards

Stanford Tau Beta Pi, Citadel West Coast Datathon – 3rd place; Research Science Institute Scholar; American Invitational Math Exam (AIME) Qualifier; Regeneron Science Talent Search Scholar; U.S. Chemistry Olympiad National Finalist; Coca-Cola Scholar; Coolidge Senator; National Merit Scholar; Eagle Scout with Palm

Skills

Technical: Machine Learning, Artificial Intelligence, Deep Learning, Big Data, Data Structures, Algorithms, Python, C, C++, Linux, Bash, PyTorch, CUDA, LaTeX, pandas, SciPy, NumPy, Scikit-learn

Foreign Language: Can read, write, and speak in Spanish (Seal of Biliteracy) and Marathi