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 with Deep Learning, Deep Learning for 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. Chris Ré as part of HazyResearch.
- Co-authored and submitted two papers to NeurIPS 2024 conference:
- "Do Multimodal Foundation Models Understand Enterprise Workflows? A Benchmark for Business Process Management Tasks" (*arxiv.org/abs/2406.13264*) and "Smoothie: Label Free Language Model Routing."

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, LaTeX, pandas, SciPy, NumPy, Scikit-learn

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