Ishan S. Khare

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EDUCATION

Stanford University <div align="right">Stanford, CA</div>

B.S./M.S. Candidate in Computer Science <div align="right">*Sept 2021 – June 2025*</div>

- **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

IMC Financial Markets <div align="right">Jun 2024 – Aug 2024</div>

Quantitative Trading Intern <div align="right">*Chicago, IL*</div>

- Learning options theory, market making, algorithm complexity, and trades analysis.
- Will utilize proprietary tools for completion of a data science and statistics research project.

Stanford Artificial Intelligence Lab <div align="right">Dec 2023 – present</div>

Graduate Machine Learning Intern <div align="right">*Stanford, CA*</div>

- Research under the guidance of Prof. Chris Ré as part of HazyResearch.
- Submitted 2 papers to NeurIPS 2024 conference: "Does GPT-4 Understand Enterprise Workflows? A Benchmark for Business Process Management Tasks" and "Smoothie: Label Free Language Model Routing."

Stanford CS Theory Group <div align="right">June 2023 – Dec 2023</div>

Algorithms Research Assistant <div align="right">*Stanford, CA*</div>

- 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.

MIT Research Science Institute <div align="right">June 2021 – Aug 2021</div>

Technology Teaching Assistant <div align="right">*Cambridge, MA*</div>

- Developed and delivered coursework on LaTeX, Linux, and Bash for students to operate MIT's computing servers.

PROJECTS

Machine Learning for Linguistics | *iskhare.github.io/files/CS224N-paper.pdf* <div align="right">Jan 2024 – Mar 2024</div>

- 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* <div align="right">Jan 2024 – Mar 2024</div>

- 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* <div align="right">Mar 2023 – Mar 2023</div>

- 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* <div align="right">Sept 2023 – Dec 2023</div>

- 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

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++, HTML, CSS, Linux, Bash, PyTorch, LaTeX, pandas, SciPy, NumPy, Scikit-learn

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