

Statement of Purpose

Introduction

I am eager to join Precog at IIIT Hyderabad, a research group renowned for its interdisciplinary approach to AI, machine learning, and computational social science. The lab's emphasis on fundamental research in areas such as machine learning, graph explainability, robustness, and interpretability aligns perfectly with my academic interests and career aspirations.

Why I Want to Work with Precog

Precog's commitment to advancing foundational aspects of AI and machine learning deeply resonates with me. Projects like Machine Unlearning, which explores methods to selectively remove information from trained models, and Graph Explainability, aimed at enhancing the interpretability of graph neural networks, exemplify the lab's pioneering research. The AI & Math project, which leverages symbolic AI to rival IMO silver medalists and outperform DeepMind's AlphaGeometry on certain problems, fascinated me. These efforts showcase Precog's exceptional research potential and inspire me to contribute to such innovative work.

Being part of this group, especially under the mentorship of PK sir, would be an unparalleled opportunity to engage with cutting-edge ideas and collaborate with like-minded individuals. I am eager to work on these topics and contribute to Precog's impactful research.

Why I Am the Best Candidate

As a Computer Science sophomore at IIIT Hyderabad, I have developed a strong foundation in machine learning, graph theory, and mathematics through rigorous coursework and projects. For example, during my time at IIITD, I worked on a Multi-Modal Sentiment Analysis project, comparing data processing approaches, ML models, and early vs. late fusion techniques. This experience honed my ability to explore and implement diverse methodologies to solve challenging problems.

Beyond my skills, I bring a deep sense of motivation and a strong drive to prove myself. Since high school, I believe my performance in competitive exams like JEE and Olympiads did not fully reflect my potential due to various factors. However, getting into IIITH has reignited a flame within me to excel academically and contribute meaningfully

to research. My dedication to learning and commitment to excellence make me confident in my ability to add value to Precog.

How I Will Benefit from Working with Precog

Collaborating with Precog will be instrumental in honing my research skills and deepening my understanding of fundamental AI concepts. Engaging with projects in Machine Learning, Graph Explainability, and Interpretability will allow me to explore innovative methodologies and critical perspectives in the field. This experience will not only enhance my technical expertise but also prepare me to address complex challenges in AI, paving the way for a career focused on advancing the frontiers of machine learning and its applications.

Finally, being part of Precog will also help me achieve personal milestones, including earning a dual degree, while building a strong foundation for impactful research and professional growth.

Conclusion

I am confident that my passion for machine learning, graphs, and mathematics, combined with my commitment to research excellence, aligns well with Precog's mission. I look forward to the opportunity to contribute to and grow with this esteemed research group.