

Statement of Purpose for the Artificial Intelligence Community

Goals and Motivations

As a first-year IEOR student at IIT Bombay with a CGPA of 8.77, I am deeply passionate about Artificial Intelligence and its potential to drive innovation across domains—from robotics and NLP to computer vision and decision-making systems. My long-term goal is to develop socially impactful AI solutions that blend technical rigor with real-world applicability. Joining the Artificial Intelligence Community (AIC) will provide me with the collaborative environment, mentorship, and resources to refine my skills and contribute meaningfully to cutting-edge projects.

Relevant Background and Knowledge

My hands-on experience in AI spans multiple disciplines:

- **Robotics & Autonomous Systems:** Through ITSP, I'm building a robot integrating autonomous navigation and real-time decision-making, combining AI with embedded systems.
- **Natural Language Processing (NLP):** My Summer of Code project on sentiment analysis involves training language models, preprocessing datasets, and optimizing classification techniques.
- **Computer Vision:** As a trainee at Rakshak, I work on real-time object detection and have created datasets for competitions.
- **Reinforcement Learning:** Developed a Q-learning-based news recommender system, balancing exploration-exploitation trade-offs.
- **Simulation & Modeling:** Designed a probabilistic evacuation model for railway stations using statistical simulations.

Beyond technical projects, I've learned leadership and teamwork through event management and drama productions, skills critical for collaborative AI research.

Contributions and Learning Goals

I aim to:

1. **Contribute:**

- Share my expertise in NLP, robotics, and computer vision through projects and workshops.
- Help organize hackathons/competitions, leveraging my event management experience.
- Collaborate on interdisciplinary AI projects with a focus on real-world impact.

2. **Learn:**

- Deepen my understanding of advanced ML techniques (Transformers, RL, CV).
- Gain exposure to AI research methodologies and industry best practices.
- Work alongside peers to tackle challenges in AI ethics, scalability, and deployment.

I am eager to grow within AIC's vibrant ecosystem and believe my diverse skill set aligns with the community's mission to foster innovation.