

Statement Of Purpose

If I have to give the gist of why I am applying to this university, I say this- “I want to be part of a team, where the future is getting built and I believe I have the necessary skills and background to excel and make my contribution”.

Since my childhood, I have always been good with speed maths. Being comfortable with advanced topics like Algebra, Geometry, Calculus and Statistics, gave me an edge to crack some of the toughest Olympiads like the RMO and INMO conducted by Homi Bhabha Centre for science education. I was also a district-wide top ranker in a state-level Ramanujan Mathematics Olympiad for four consecutive years. With the same spirit, after my high school, I was able to secure admission in a super competitive program at a premium institute in India: Computer Science @ IIT Bombay.

My first encounter with machine learning happened when I heard about “AlphaGo”, a computer program that beat the best human player. I was fascinated by the idea of how they were able to capture the human mind in a machine and give it the ability to make decisions, just like humans do. At that time, with my minimal knowledge, I thought AI was very esoteric and complex, like “String Theory” in physics. But, my perception towards it changed, when I took the introductory course on Machine Learning by Prof. Ganesh Ramakrishnan, during my sophomore year, which stoked my interests and inspired me to pursue a professional career in this field.

In this fast growing world, I see that computer science is used as a tool just as mathematics is used for all the fields of science. I believe that it is a field that has the capacity to solve problems of the present and the future.

Under the guidance of Prof. Ganesh RamaKrishnan, I implemented Cascade Correlation Neural Networks, for a classification task to outperform standard ML models like Random Forests, SVM and ANN.

I worked as a Software Engineer at Samsung Noida in the Camera Team, under the mentorship of Mr.Jatin Jain. At Samsung, I worked on a variety of projects ranging from Generative Adversarial Networks to Auto ML. I created a video streaming platform that decreases the data usage by using image compression models. I also implemented a state of the art Deblurring Network, that detects any motion blur existing in the photo and removes it. It was deployed it at camera system level, to reduce the latency

After joining the Computer Vision Lab, CVIT @ IIIT Hyderabad under the mentorship of Prof. Vineeth Gandhi, I started working on Interpretable Neural Networks. I researched different ways to increase interpretability and robustness in deep learning models. I developed Probabilistic Graphical Models such as Bayesian Networks, Markov Networks to see their significance in the context of solving computer vision problems. This experience from the past few months has shown me a different dimension to think of ML models from a probabilistic point of view. Statistical Inference

1. Created a video streaming platform with low latency - used GAN architecture for training
2. Deblurring Networks
3. Worked on Patent on Constrained Neural Architecture Search
4. research internship @ IIIT Hyderabad

My education so far has given me a good foundation in the field of artificial intelligence. However, I don't suspect such thoroughly researched and documented techniques as I've studied so far will continue to amaze me indefinitely. I wish to continue my studies in artificial intelligence at the University of Texas so that I can develop the new techniques that may lead to a better understanding of intelligence and the human mind.