Add -- Application of ML in social or, economic problems.

-- new textual representation

In vision

I am interested to work with Prof. Xiaojin (Jerry) Zhu on machine teaching---selecting an optimal training set for an already known target model. Selecting such a training set requires combinatorial search, on which I worked on my undergraduate and Master's thesis. The idea of machine teaching seems very intriguing to me. I would like to explore the use of Machine Teaching techniques for machine learning algorithms. For example, we can speed up the training by selecting batches intelligently. By machine teaching techniques, we find the representative subset of training examples for the current state of the model, and emphasize on other examples from the training set for the next batch to facilitate generalization---a concept similar to Boosting for Ensemble Learning. Prof. Zhu's work on persistent homology including its application for a new representation of text is also interesting.

I am also interested to work with Prof. Jignesh M. Patel on his project AVA ---a chatbot that can interact with data scientists and help them build data science workflows. Multiple future directions of this project match with my works. For example, automatic selection/suggestion of best possible combination of data preprocessing, feature selection, model selection require search techniques, on which I worked during my thesis. My recent endeavour on machine comprehension would also be useful to make AVA handle less-constrained natural text.

Prof. Stephen J. Wright's research on optimization and its applications to areas such as image and natural language processing and machine learning is equally interesting to me. My Master's and undergraduate thesis aligns with his line of research.

I am also interested to work with Prof.

new system (called [Ava](http://pages.cs.wisc.edu/~jignesh/publ/Ava.pdf)

Jerry !!!

http://pages.cs.wisc.edu/~swright/

research in computational optimization and its applications to many areas of science and engineering.

Applications of optimization to signal and image processing, machine learning, computational statistics, process control, and other areas.

Mohit

Our research is in two main areas: Desiging novel computational cameras, and developing physics and statistics based algorithms for scene interpretation. Our work is motivated by applications in autonomous transportation, industrial robotics, consumer imaging, and human-computer interfaces.

Jude W. Shavlik - ML

Our research is in two main areas: Desiging novel computational cameras, and developing physics and statistics based algorithms for scene interpretation. Our work is motivated by applications in autonomous transportation, industrial robotics, consumer imaging, and human-computer interfaces.

Charles R. Dyer - Vision

Michael C. Ferris

Algorithms, environments, theory and applications of optimization.