First large undergrad class

Game theory, algorithms, cryptography

Research Interests: artificial intelligence, machine learning,

Undergrad at Berkeley, PhD. at Harvard

Spent previous decade in basic research at AT&T/Bell Labs

Joined Penn faculty in January 2002

in Cognitive Science

Co-director (with Prof. Liberman) of Institute for Research

Faculty in Computer and Information Science

Michael Kearns: Some Personal Info
Systems for AI in human interaction

- Emphasis on probabilistic or statistical approaches
- Interacting strategically or cooperatively with others
- Deciding how to act in uncertain environments
- Interpreting the consequences of given knowledge
- Learning how to generalize from sample observations

Examples:

- Performing "natural" computations on these models
- Algorithms for manipulating these models efficiently
- Models representing complex "natural" data or environments

A little more detail on MK's Research Program
Software agent for mediation/arbitration in human conflicts •

Automated trading in financial markets •

Algorithms for game theory •

Adaptive spoken dialogue systems •

TermNet chat environment

versatino, telephone access in LambdaMOO (well-known In-

Adaptive software agent providing „social statistics‟, con-

Some Sample Projects
This course will mix these two perspectives and approaches. Sometimes algorithms - However, biology provides at least "existence proofs" — May choose to do it "differently" than biology — Primarily concerned with replicating the functionality of human or biological intelligence — Traditionally, Artificial Intelligence - Differ in their methods and scale biological intelligence, cognition, psychology, etc. — Primarily concerned with the understanding of human or — Traditionally, CogSci, Psychology, Neuroscience — AI versus CogSci, Psychology, Neuroscience...