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Google Research

- Algorithm Design
 - Combinatorial optimization: Explore the structure of discrete mathematical objects to design fast algorithms
 - Online algorithms: Decision making under uncertainty about the future
- Game Theory
 - Understand and model the objectives of different players in a marketplace
 - Design mechanisms/games that maximize a global objective when players behave selfishly
- Current Applications
 - Fast algorithms for matching, ranking etc.
 - Auction design for Google search ads, YouTube ads etc.