Sucrrose mediocrity leads to steady, sure defeat: How novice Tetris players fail to manage their task environment

Catherine Sibert (siberc@rpi.edu) & Wayne D. Gray (grayw@rpi.edu)
CogWorks Laboratory, Cognitive Science Department, Rensselaer Polytechnic Institute

Tetris as an Expertise Task
- Complex, dynamic, decision-making task
- Data available from a wide range of skill:
  - In-lab data from over 250 undergraduate students
  - Data from local Tetris tournament
  - Data from Classic Tetris World Championship
- Collect a wide variety of data, including eye tracking, piece placements, and key presses

What is a Good Tetris Move?
- AI Tetris models select moves by using feature weights and values to calculate a score for each possible move
- Models trained to get high scores perform well, much better than novice players, but not quite as well as experts
- Models are used to judge the task environment (space between the best and worst possible moves) at each piece placement of a human game, as well as where in that space the human's move falls

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Works Cited

Novice Player
- Game Length: 49 episodes
- Score: 400 points
- Median Move Rank: 5
- Percentage of Rank 1 Moves: 26%
- Average Move Score: -23680.31
- Average Move Score Range: 4974.13

Advanced Player (Regional Expert)
- Game Length: 406 episodes
- Score: 178400 points
- Median Move Rank: 1
- Percentage of Rank 1 Moves: 59%
- Average Move Score: -9501.69
- Average Move Score Range: 5709.59

Expert Player (Global Expert)
- Game Length: 497 episodes
- Score: 286615 points
- Median Move Rank: 1
- Percentage of Rank 1 Moves: 56%
- Average Move Score: -6755.26
- Average Move Score Range: 5995.58