

TetrisGameAI

Culminating Project for ICS3U1

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Work log can be found in the commit history of this [GitHub repository](#)

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Description

- Clone of the classic Tetris game
- Includes a single player mode and AI modes

Project Organization

Package	Subpackage	Description
ai		files related to the AI
backend		files related to the processing and game logic
frontend		files related to the JavaFX components displayed on screen
frontend	aiFastTrain	files related to the AI fast training mode
frontend	aiPlay	files related to the AI vs. Player mode
frontend	aiTrain	files related to the AI GUI training mode
frontend	aiWatch	files related to the AI watch mode
frontend	base	files related to abstract classes that are used in displaying
frontend	common	files related to GUI elements that are shared between multiple modes
frontend	instructions	files related to the instructions of the game
frontend	player	files related to the human player mode
frontend	menu	files related to the main menu
frontend	Game.java	the class that is the entry point into the game
unittests		files related to the JUnit test files

Features

- Various indicators on the side that show the score, level, lines cleared, etc.
- Two AI training modes: GUI training mode which shows the training game play and fast training mode which only shows the statistics
- Includes an AI watch mode where one AI can be loaded to play multiple games
- AI is trained using a genetic algorithm, genes can be found in the [Genes](#) class

- Window resizes automatically according to the size of the screen (80% of the height or width of the screen, depending on which is smaller)
- The size of the window changes automatically depending on the dimensions of the map and the size of the window