

CSYE 7270

Building Virtual Environments

Game AI

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Game AI

Counts towards assignment score

(100 Points) Develop Artificial Intelligence for your Game

Develop Artificial Intelligence for your Game. Implement your AI in a game.

You can build an Artificial Intelligence model from scratch or tweak an existing model. If you tweak an existing model you must provide the source of the base model, and reference it.

Possible Artificial Intelligence techniques include:

- i. Artificial Intelligence agents
- ii. Finite State Machines
- iii. Pathfinding
- iv. Game trees and min-max
- v. Flocking and crowd dynamics
- vi. Behavior trees
- vii. Fuzzy logic
- viii. Rule-based knowledge engine
- ix. Dynamic Storylines
- x. Etc.

Scoring Rubric

100 points possible

Requirement	Points
AI Model	40
Implementation in a game.	40
Quality	10
Tests	10

Submission

You will submit your assignment via BlackBoard.

Click the title of assignment (blackboard -> assignment -> <Title of Assignment>), to go to the submission page.

Game Artificial Intelligence Resources.

Search “Artificial Intelligence” or “game AI” on SpringerLink (<http://link.Springer.com/>).

AI Depot <http://ai-depot.com/>

A collection of articles and information from Alex Champandard BEFORE he started AIGameDev

AI Junkie <http://www.ai-junkie.com/>

Site created and maintained by Mat Buckland, author of Programming Game AI by Example

AI Wisdom <http://aiwisdom.com/>

The home of the AI Game Programming Wisdom series of books. Contains many article summaries from the series.

AIGameDev <http://aigamedev.com/>

The single largest source of articles, interviews, and information about game AI. Includes papers, interviews, live masterclasses, and active forums on game AI.

Boids (Flocks, Herds, and Schools) <http://red3d.com/cwr/boids/>

Craig Reynolds explanation and demo of flocking via individual application of steering behaviors

Forums at GameDev.net <http://www.gamedev.net/forum/9-artificial-intelligence/>

Very active forums on game AI.

Game AI Facebook group <https://www.facebook.com/groups/gameai/>

Public Facebook group for anyone interested in AI for games.

Game Trees <https://www.ocf.berkeley.edu/~yosenl/extras/alphabeta/alphabeta.html>

Explanation of game trees and minmax. Includes java programming stepping through a game tree.

Kirupa Game/AI Forums <https://www.kirupa.com/forum/forumdisplay.php?42-Game-AI-Programming>

Forums about game AI specifically geared toward Flash programming

Marvin Minsky's Personal Page <http://web.media.mit.edu/~minsky/>

MIT-based home page of the well-storied AI researcher. Lots of links incl. to his books.

Steering Behaviors For Autonomous Characters <http://red3d.com/cwr/steer/>

A collection of demos and descriptions of various steering behaviors by Craig Reynolds.

AI and Artificial Life in Video Games

by Guy W. Lecky-Thompson

Publisher: Course Technology PTR

Release Date: May 2008

ISBN: 9781584505587

Game AI Pro 2

by Steven Rabin

Publisher: A K Peters/CRC Press

Release Date: September 2015

ISBN: 9781498760423