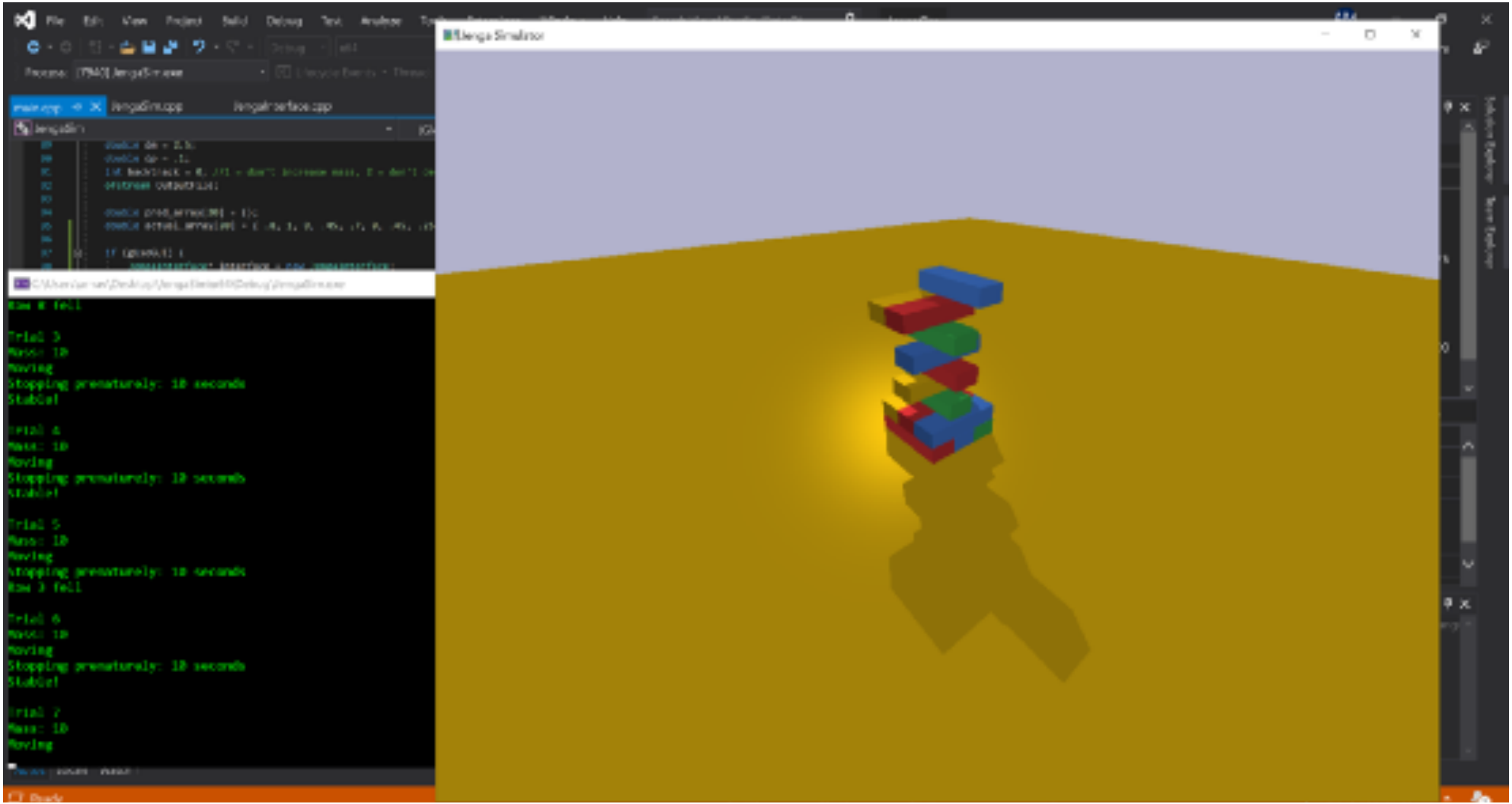
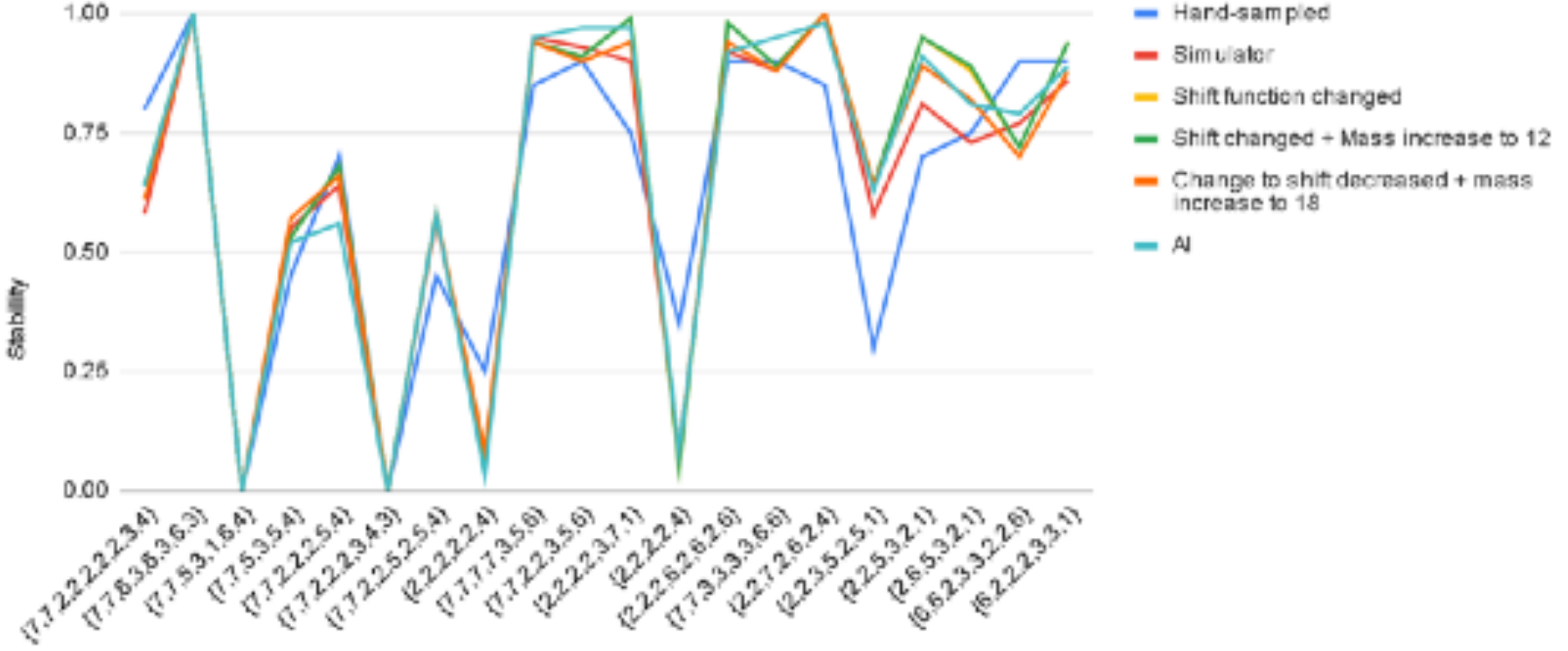

Jenga Simulator
Trial 3
Mass: 10
Moving
Stopping prematurely: 10 seconds
Stable!
Trial 4
Mass: 10
Moving
Stopping prematurely: 10 seconds
Stable!
Trial 5
Mass: 10
Moving
Stopping prematurely: 10 seconds
Row 3 fell
Trial 6
Mass: 10
Moving
Stopping prematurely: 10 seconds
Stable!
Trial 7
Mass: 10
Moving


1.00
0.75
0.50
0.25
0.00
Stability
Hard-sampled
Simulator
Shift function changed
Shift changed + Mass increase to 12
Change to shift decreased + mass increase to 18
AI
{7,7,2,2,2,2,3,4}
{7,7,6,3,6,3,6,3}
{7,7,5,3,1,6,4}
{7,7,5,3,5,4}
{7,7,2,2,2,5,4}
{7,7,2,2,2,3,4,3}
{7,7,2,2,5,2,5,4}
{2,2,2,2,2,4}
{7,7,7,7,3,5,6}
{7,7,2,2,3,5,6}
{2,2,2,2,3,7,1}
{2,2,2,2,4}
{2,2,2,6,2,6,2,6}
{7,7,3,3,3,3,6,6}
{2,2,7,2,6,2,4}
{2,2,3,5,2,5,1}
{2,2,5,3,2,1}
{2,6,5,3,2,1}
{6,6,2,3,3,2,2,6}
{6,2,2,2,3,3,1}

Project Overview (Ongoing):

Part of SUCCESS Project, which includes a Jenga Playing

Worked on AI for robot

Attempt at improving simulator

Generalizing Jenga Towers in a way that traditional ML can


robot

be run on stability data

(Not Started Yet) Using Reinforcement Learning to have it

strategize against people

Machine Learning, can expose weak points and determine

overall stability

Challenges/Let-downs:

- Requires creativity and an in-depth understanding of the

- Coming up with a way to represent Jenga Towers that, through

me to educate myself on that problem space before thinking

of any of the AI components

subject matter (physics in this case)

- Simulations and Training with Simulator took very long to

- Similar to design projects in any problem space, required

compute

to be able to get results in time

- Running them overnight on laptop

- Figuring out ways to make process as efficient as possible

- Most of the representations Professor and I came up with fell

short of what we were hoping for

possible (after finding them too late a few times)

- Learned to catch possible bugs during training as early as

- Finding value from failed models (what features seemed

right, what type of model seemed to work)