DEMO REEL BREAKDOWN

STEAM EFFECT

Maya, Houdini, Nuke

A MEL script saves out OBJ animation of the water and camera from Maya. This is taken into Houdini to interact with the steam.
A fluid system creates the steam. Mantra is used to render out the effect from Houdini. Compositing and color correction, reflection of steam on the water surface done in Nuke (https://vimeo.com/105252176)

WAVE EFFECT

Maya, Houdini, Nuke

From Maya, a mel script saves out OBJ animation of the character and camera. A particle system is setup to create the wave. 3 layers of particles system is setup, for the spray, water and white water. Mantra is used to render out the effect from Houdini. Compositing and color correction is done in nuke.

SPINNING GALAXY

Houdini, Nuke

A particle system is used to create the spinning galaxy; this is done procedurally. A fluid system is created using the same particles to emit gas. Another particle system is added to create the background stars. Custom shader is written for the galaxy and the background stars. Compositing is done in Nuke.

3D FLOCKING SIMULATION

Java and Processing

This is an implementation of Craig Reynolds boids simulation. Created a GUI to vary various attributes such as – avoidance, velocity matching, centering, friction, the number of boids, the lead boid's position.

SPRINGY MESH SIMULATION

Java and Processing

Springs are placed along the edges of each triangle, and cross-springs are placed between opposite faces to roughly maintain volume of the shape. RK4 integration method has been implemented.

FLUID SIMULATION

Java and Processing

This is an implementation of Stam's Stable Fluids paper. This semi- Lagrangian approach is used to replicate gaseous state. A density field is created on mouse click and velocity field is introduced on mouse drag.

C++ RAY TRACER

C++, OpenGL for image output, custom obj reader

Shown Features: Depth of field, camera painting - cubist, environment mapping, reflection, iridescence, refraction. Capable of rendering: Phong, Lambert, Gooch- Gooch textures, spot lights, area lights, point lights, directional lights, Texture mapping, Normal mapping and motion blur, translucency and glossy surface texture.

LED EYE CONTROL TOOL

Maya, Python and MEL

This art directable tool helps animators to shape the LED eyes of the robot. Running the code generates a GUI and control curves. Translating and scaling the curves help turning the LEDs on and off. The GUI can be used to do the same, and also key frame   the controls.

DECIDO

Maya, Houdini, Nuke

This is a 3D representation of a painting by Rachel Cunningham. I am responsible for modeling, shading, lighting and compositing. Grass is done using hair system in Maya; the water geometry is created in Houdini.

ART WORK

Life drawing – charcoal, 11x16 inch each
Matte painting – digital painting, 19x10 inch