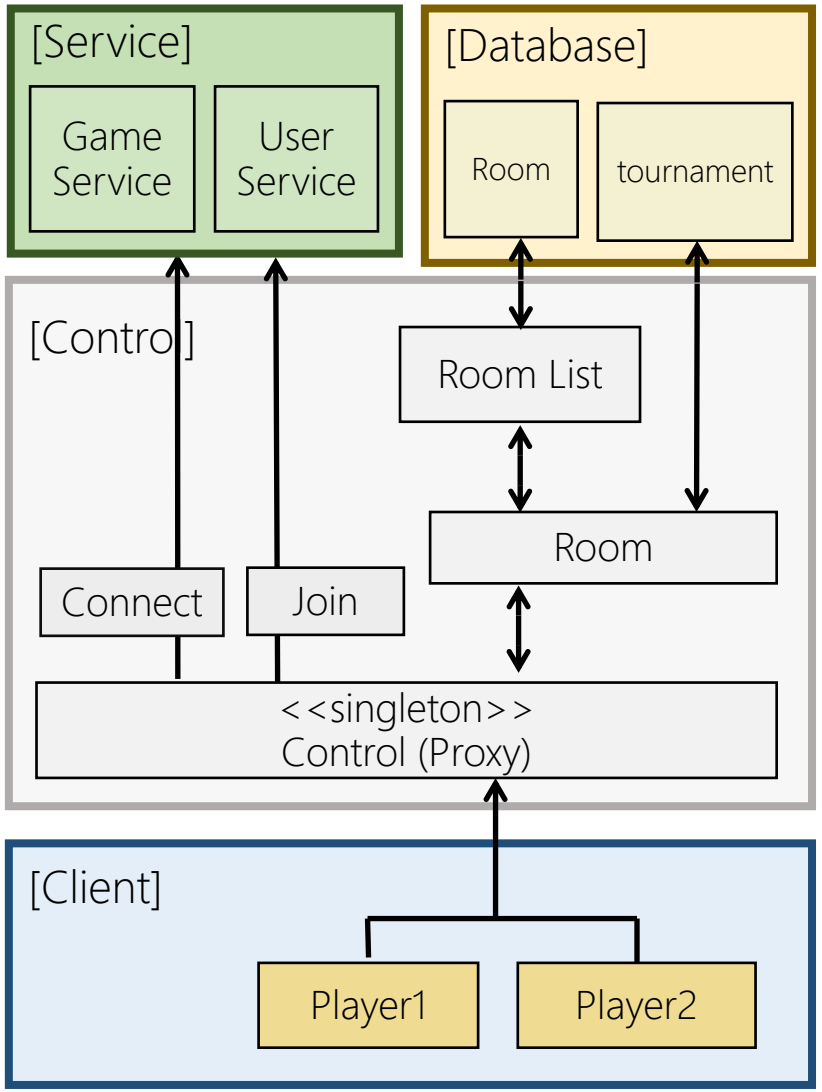
Portfolio

Yunju LEE

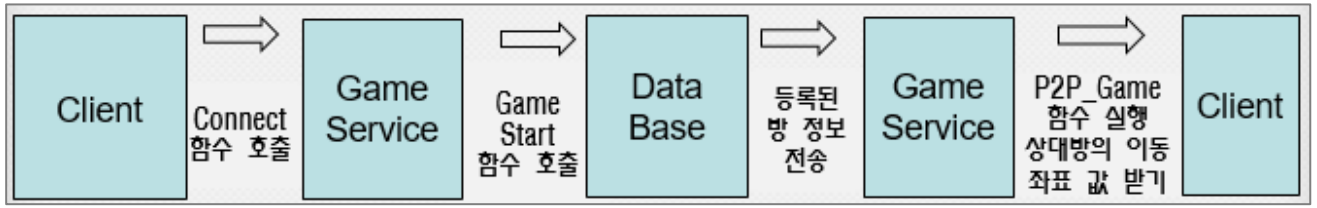
LIST

- CHESS Game
- Neurophysiological Big Data Visualization Tool
- Waterworks Simulation
- Home Alone
- Robot Simulator
- Object classification with tactile sensor
- Point cloud Edit Program
- Object classification based on point cloud data from rgb-d camera
- Human Pose Estimation with restored occluded mask image

CHESS Game



<Game>



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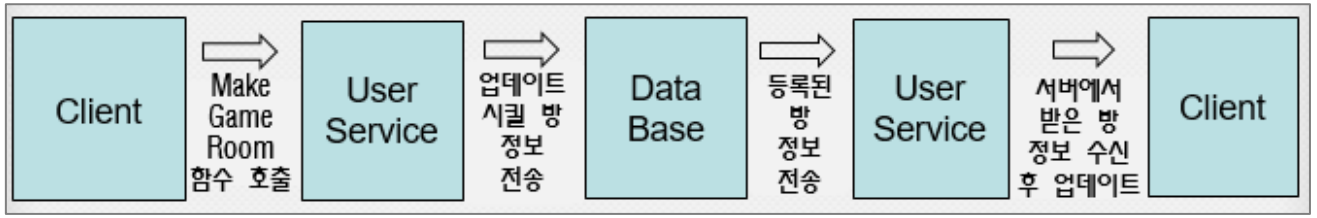

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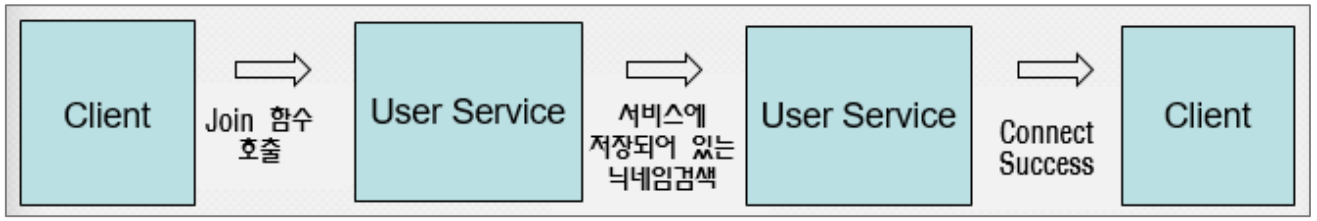
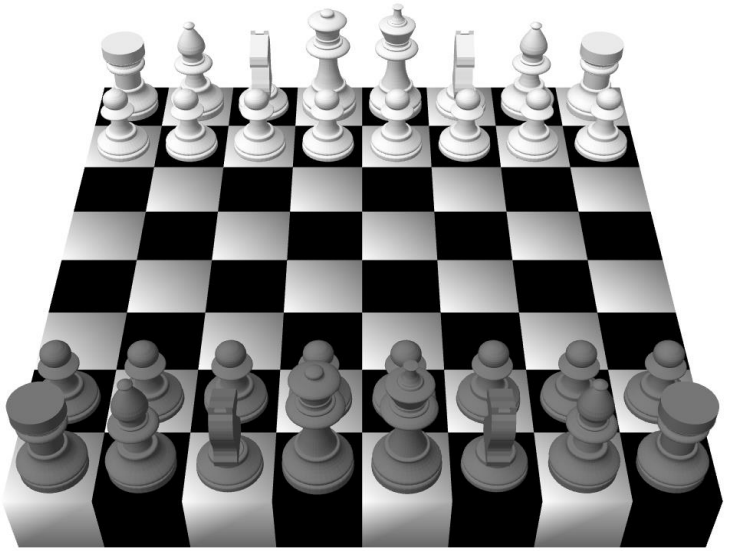
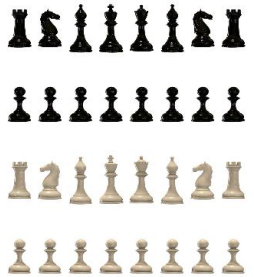


CHESS Game





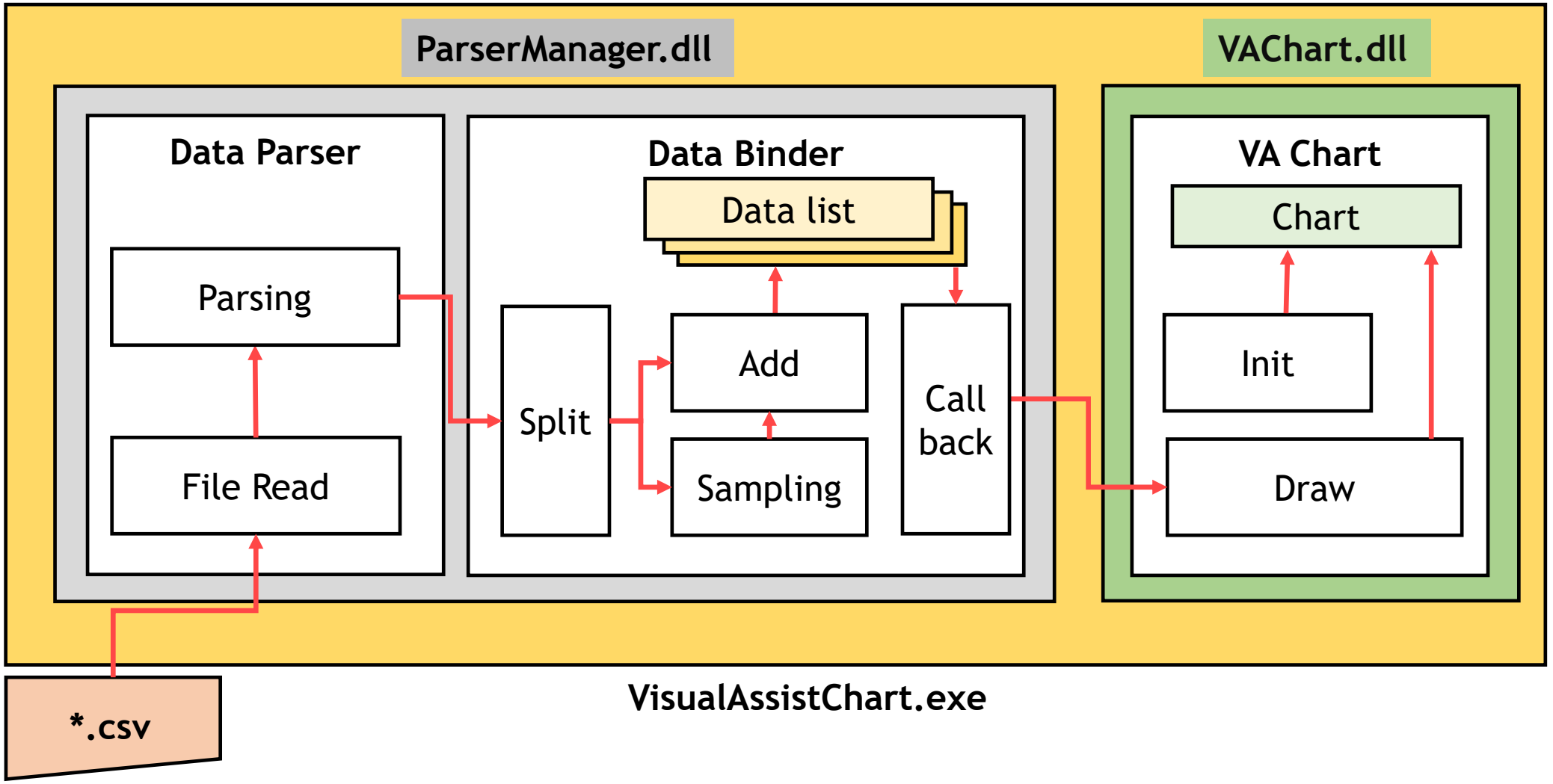
Player1

제한시간: 11초 / 30초

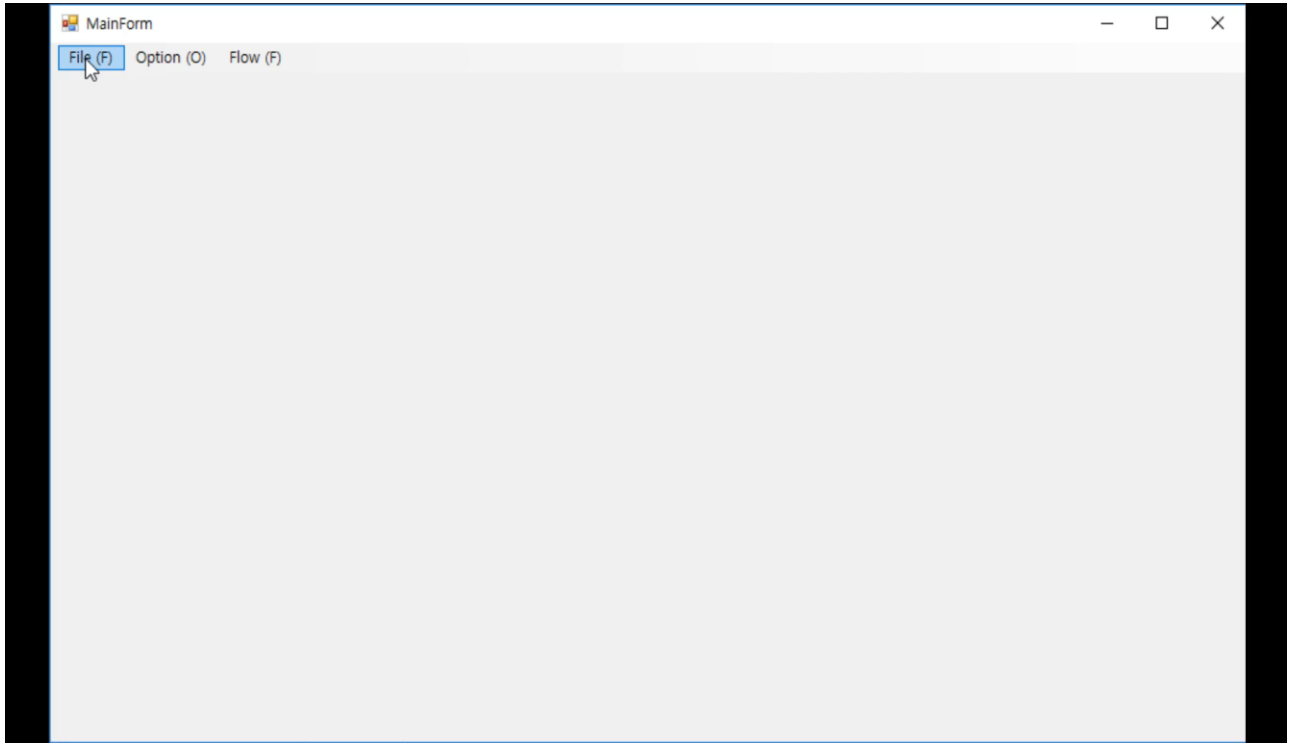
<1:1>

<Tournament>

Neurophysiological Big Data Visualization Tool



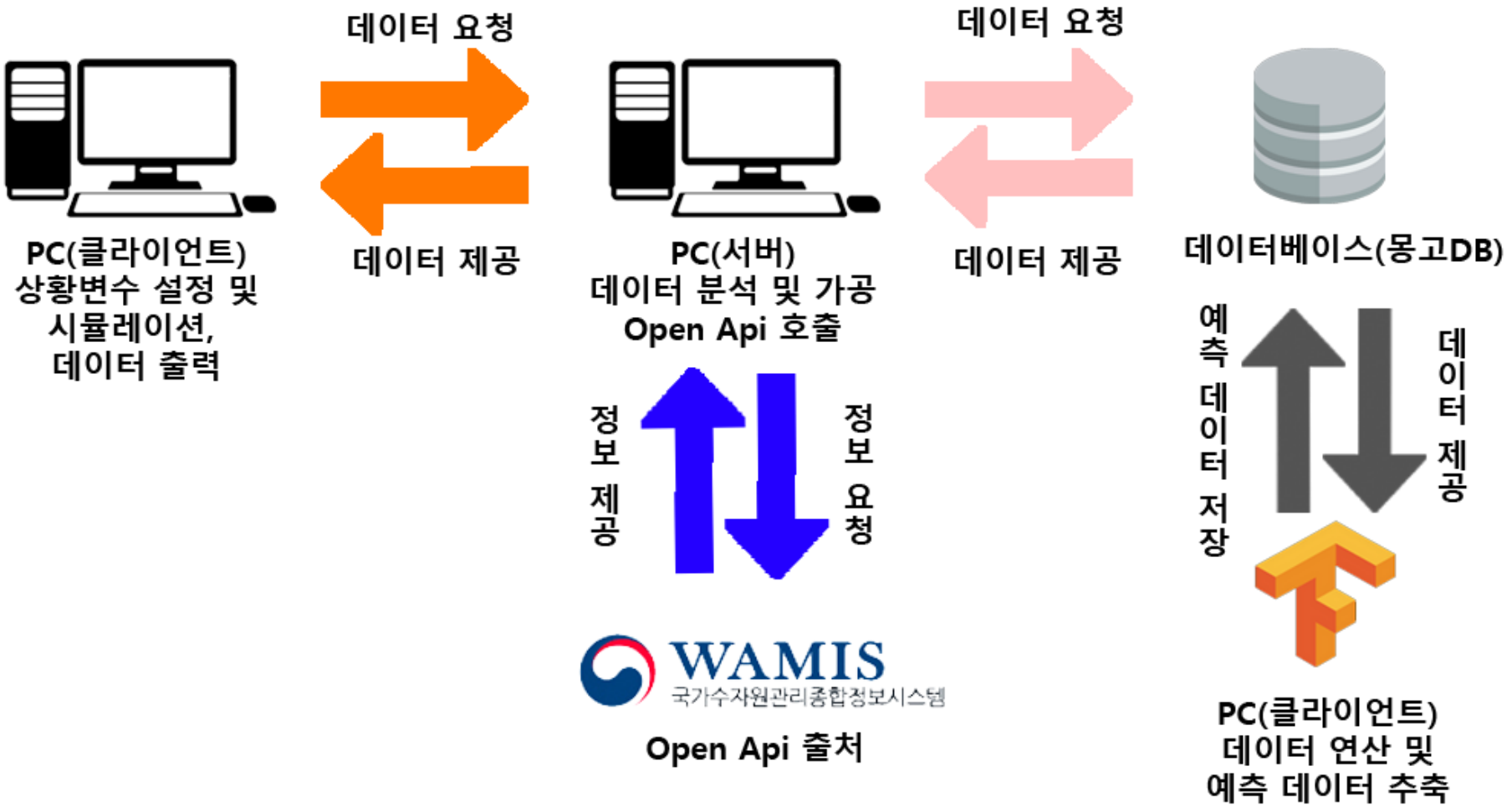
Neurophysiological Big Data Visualization Tool



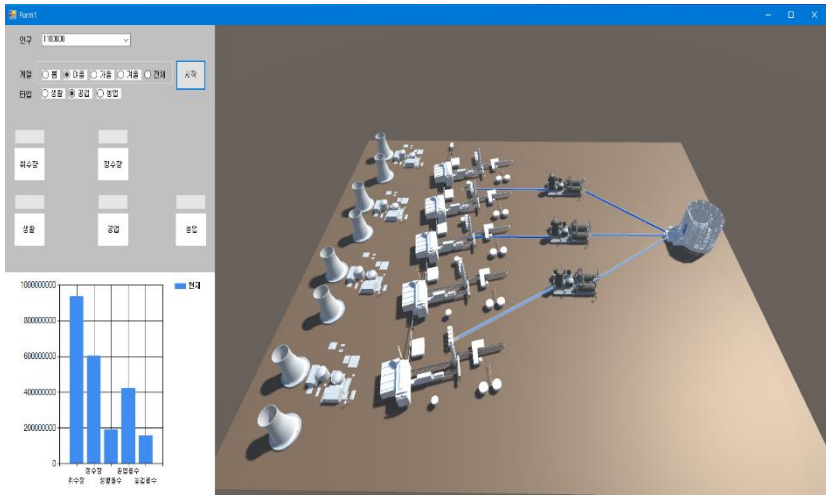
<Tool Options>

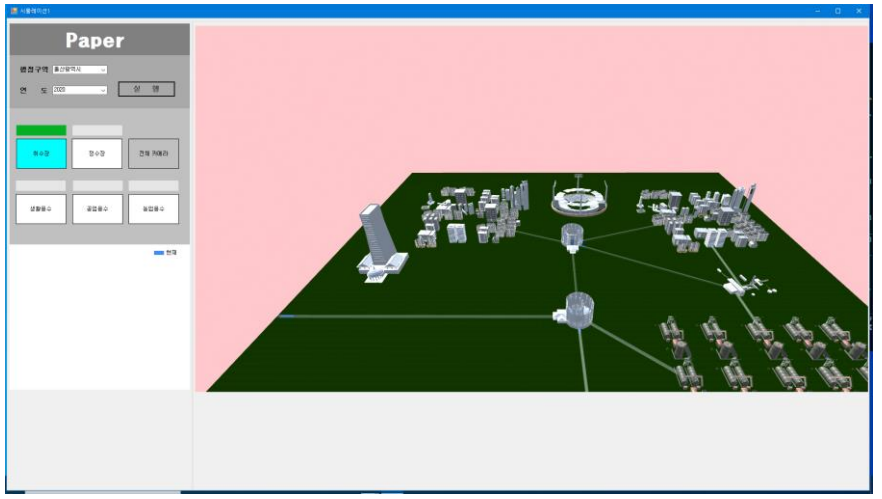
- Asynchronously parsing
- High-reaction speed
- Window sliding by using mouse dragging
- Scrolling
- Graph zoom, separate, integrate

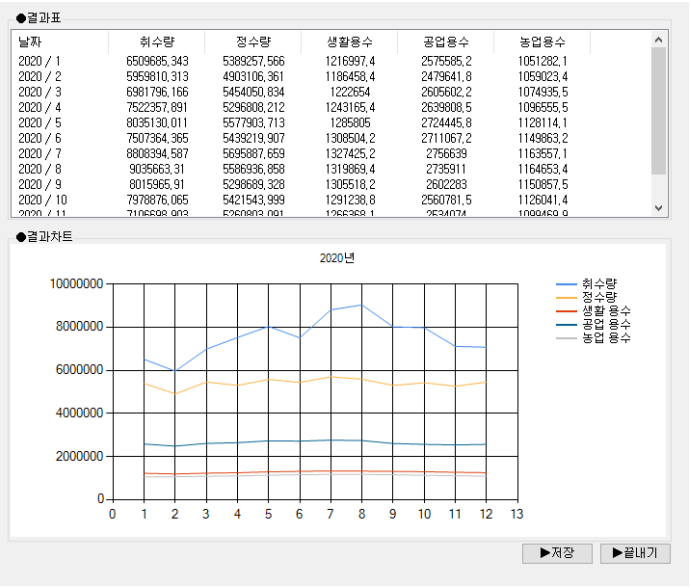
Waterworks Simulation



Waterworks Simulation



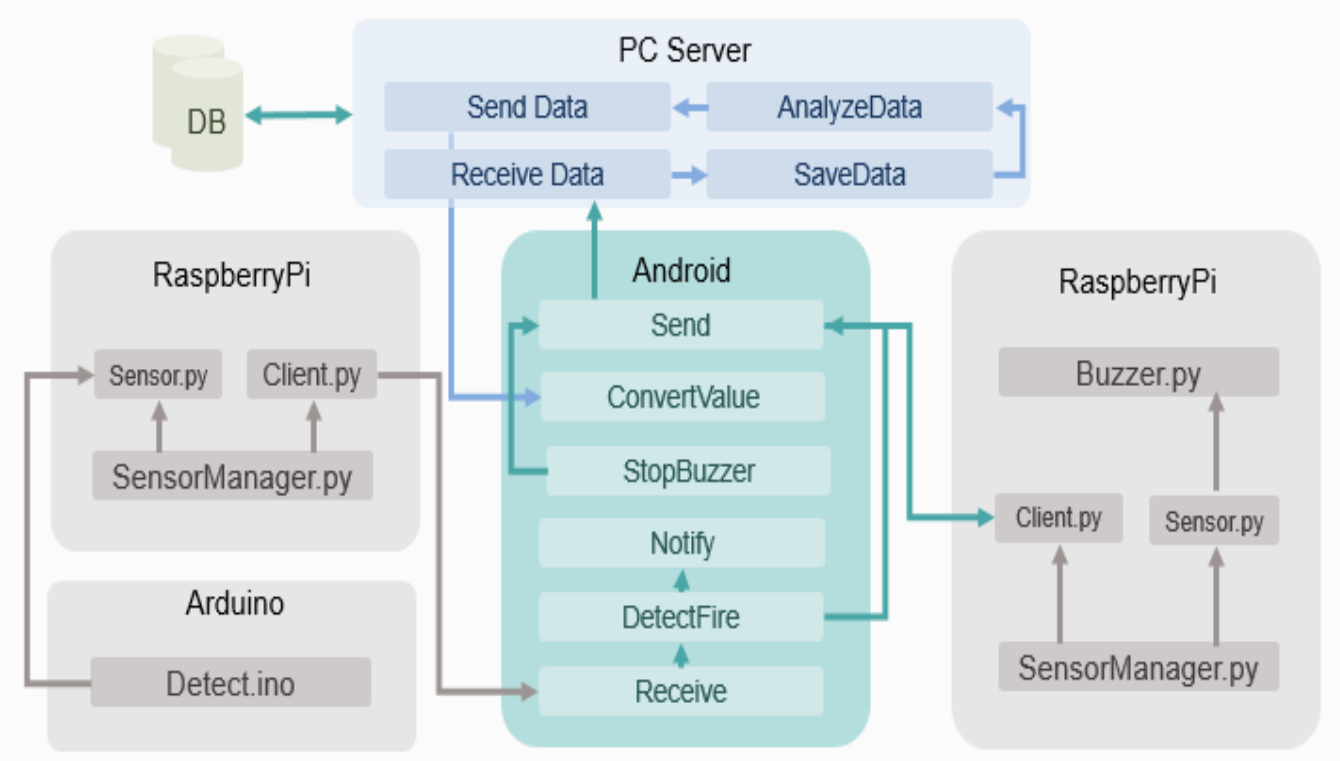




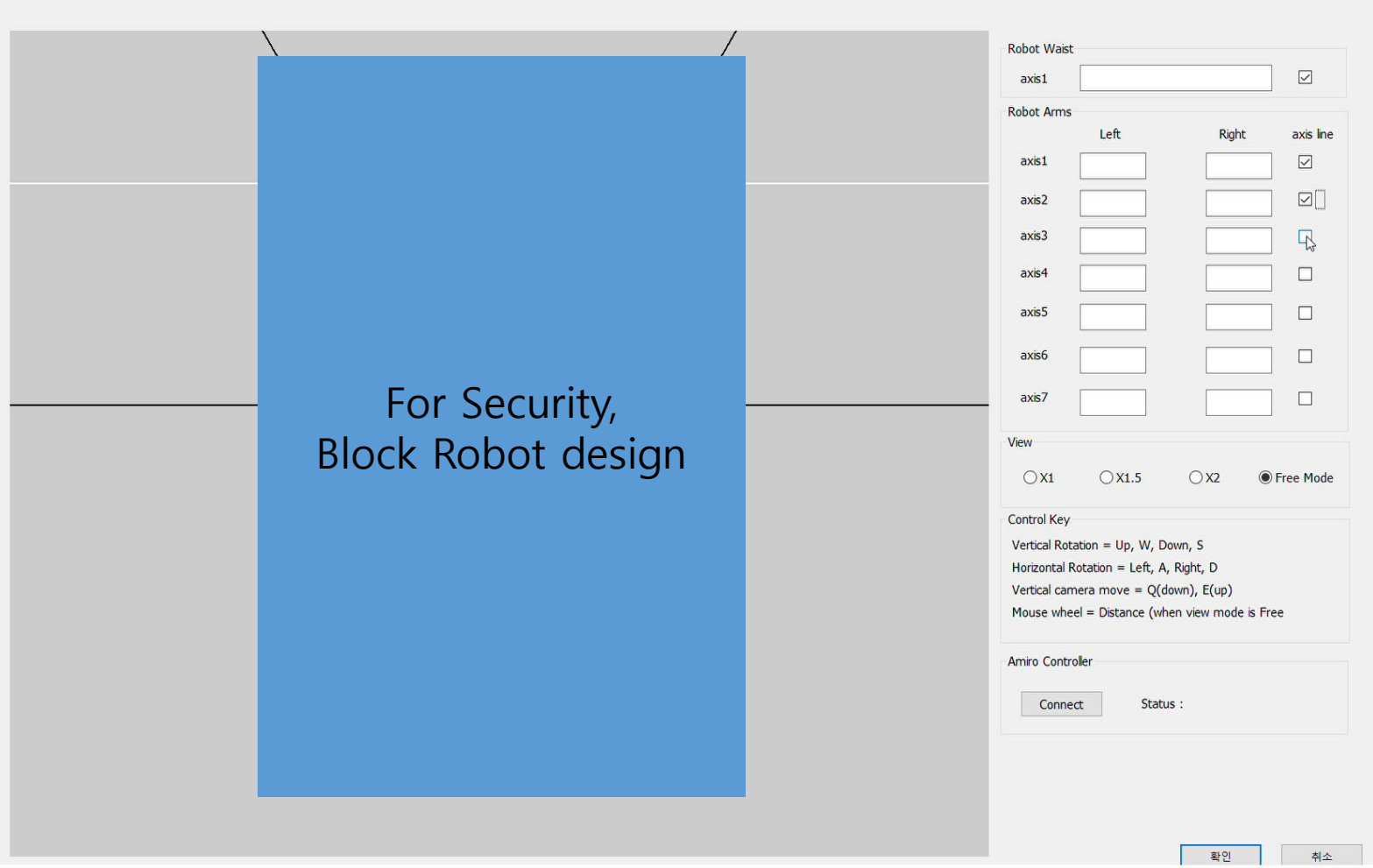
Home Alone

<Demo video>

<Architecture>



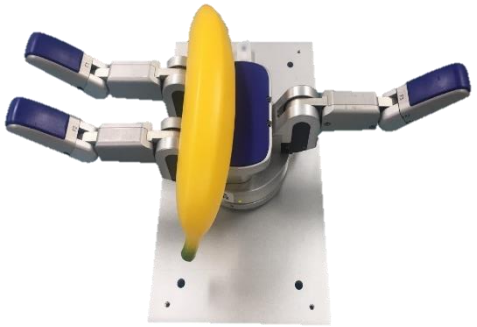
Robot Simulation

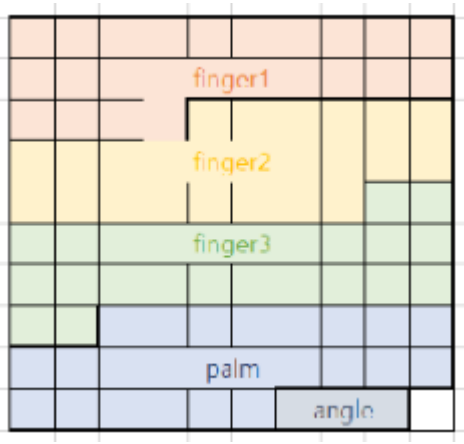


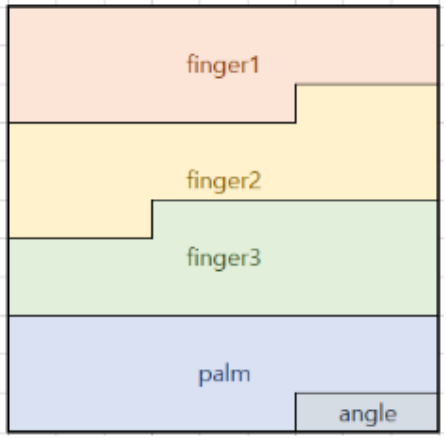
<Simulation functions>

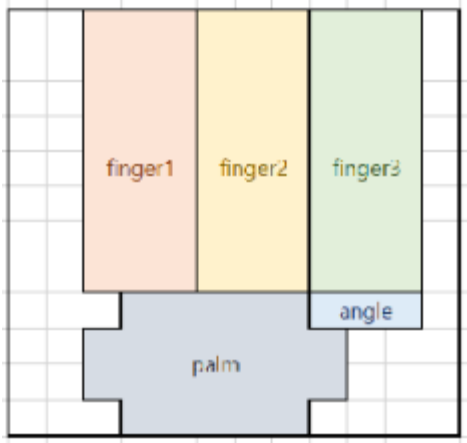
- Robot Viewer
- Various view
- Set angle value
- Connect with robot controller

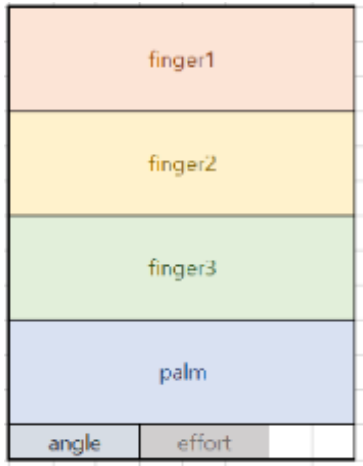
Object classification with tactile sensor











Object Grasp by Robot Hand

↓

Collect Tactile Data (Tactile Image)

↓

Feature Scaling (Pre-processing)

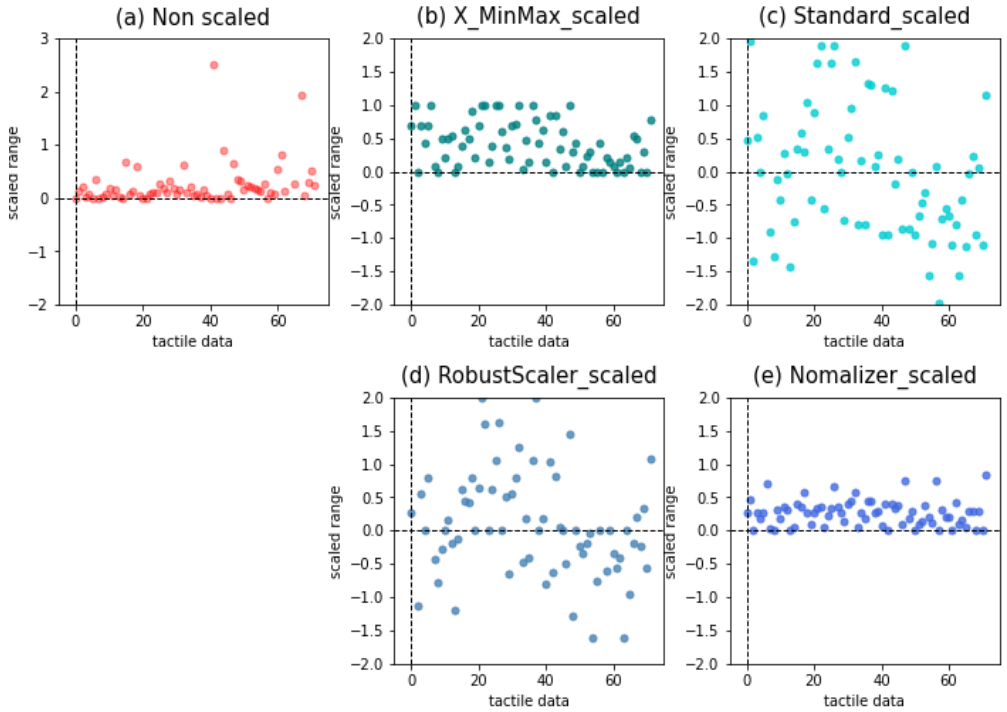
↓

Learning & Model Making (CNN)

↓

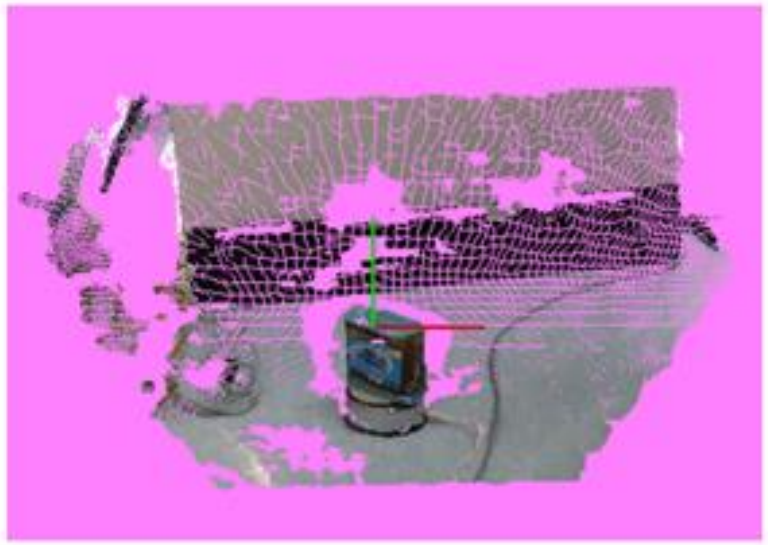
Object Classification

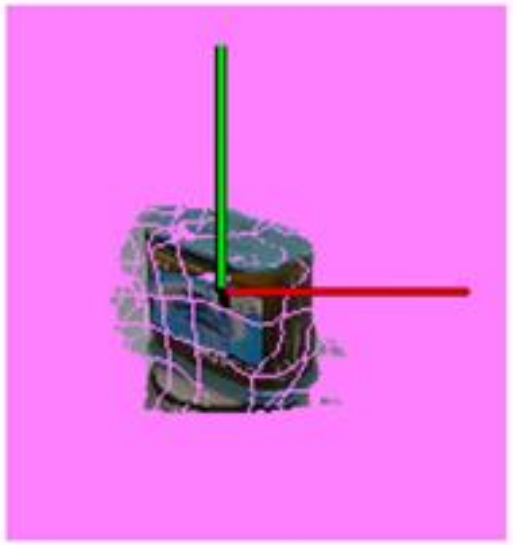
Object classification with tactile sensor



	Finger	Hand	Angle	Effort
Standard	91.17%	83.25%	87.08%	82.08%
Min max	91.17%	85.08%	90.17%	86.75%
Robust	81.92%	82.83%	83.67%	87.25%
Normalize	86.25%	88.83%	95.17%	94.58%

Point cloud Edit Program



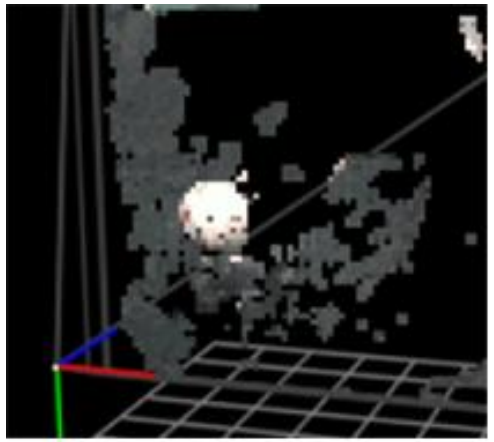


<Edit functions>

- .pcd / .ply file viewer
- File edit, cut data
- Object segmentation using kdtree

Object classification based on point cloud data from rgb-d camera

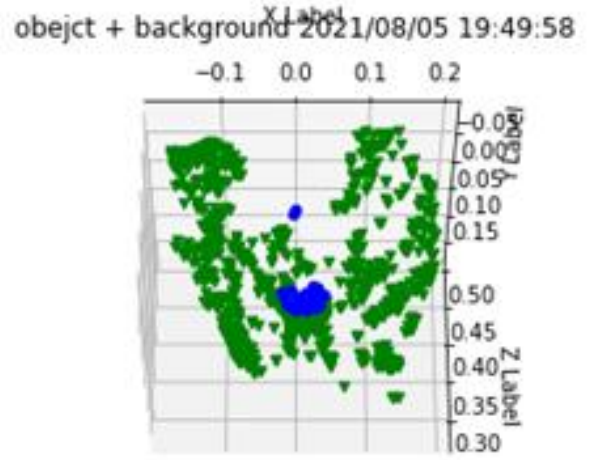
Object data capture



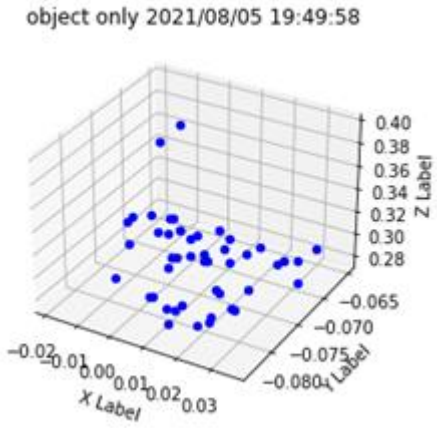
Original point cloud data

Classification results

Used objects

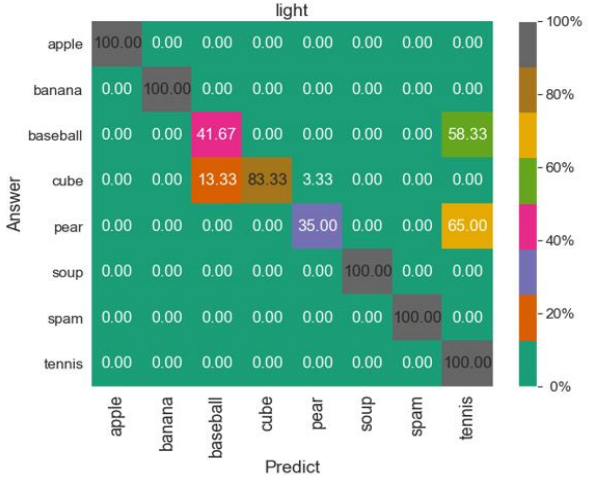


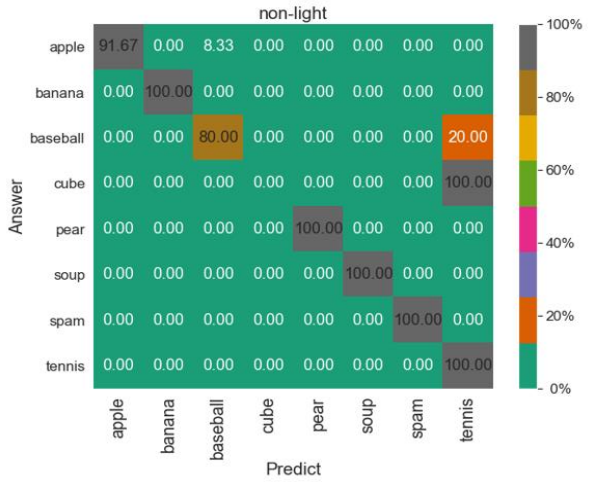
Separation
object and background

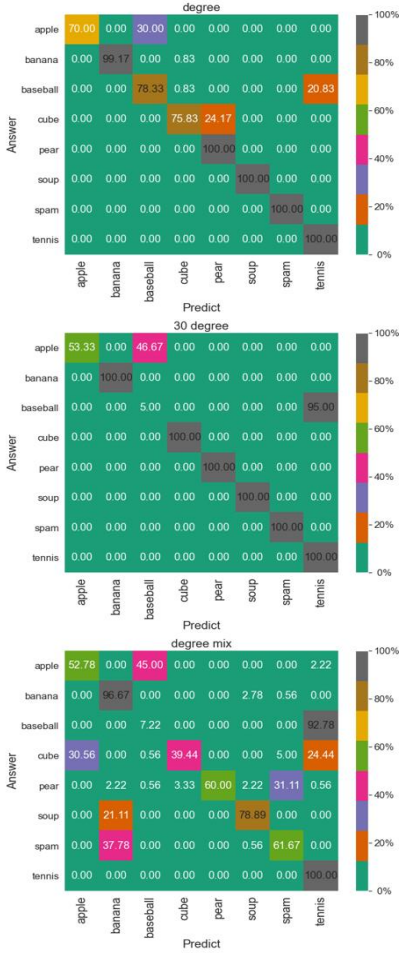


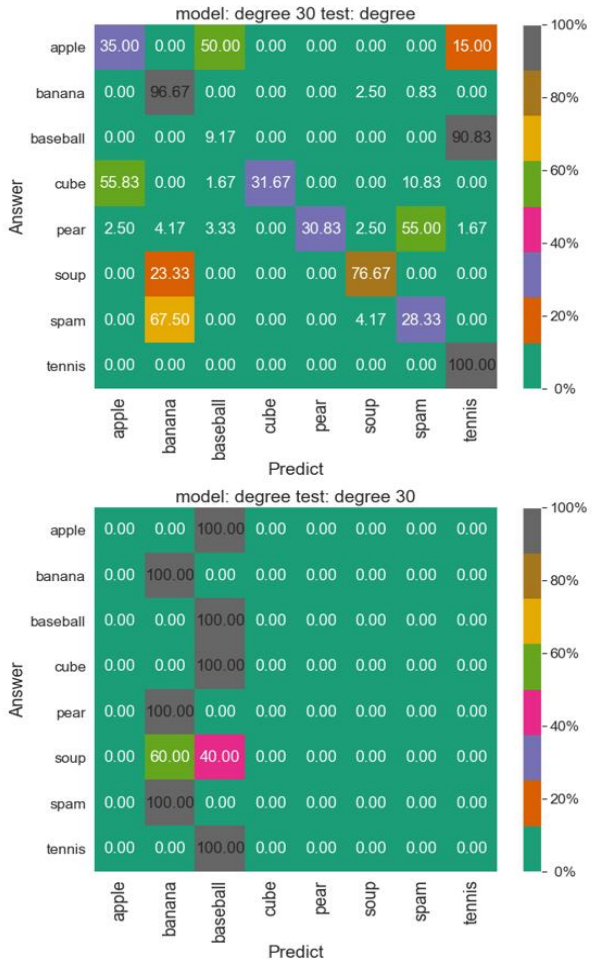
Perception parts of object

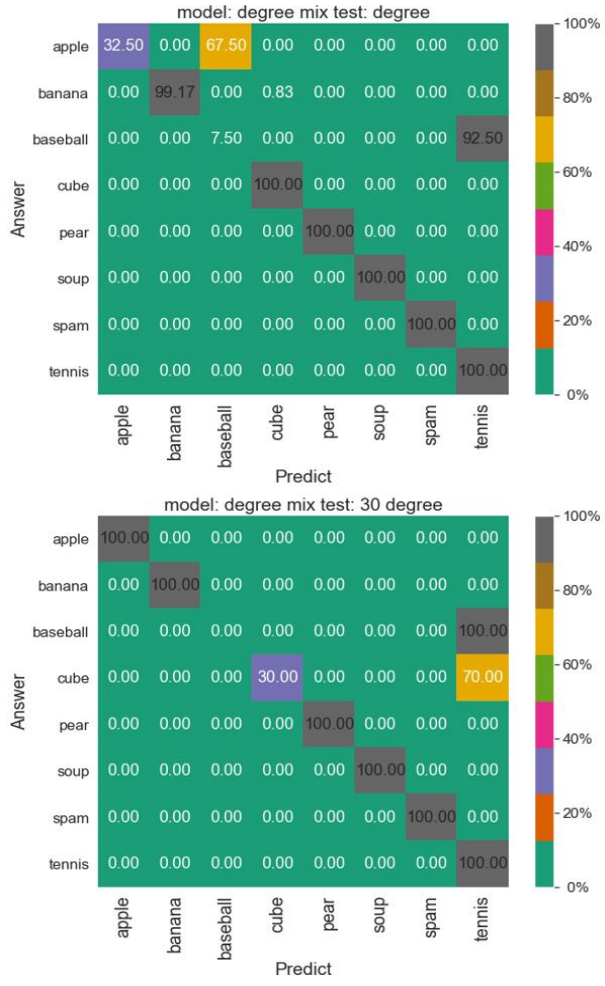
Object classification based on point cloud data from rgb-d camera



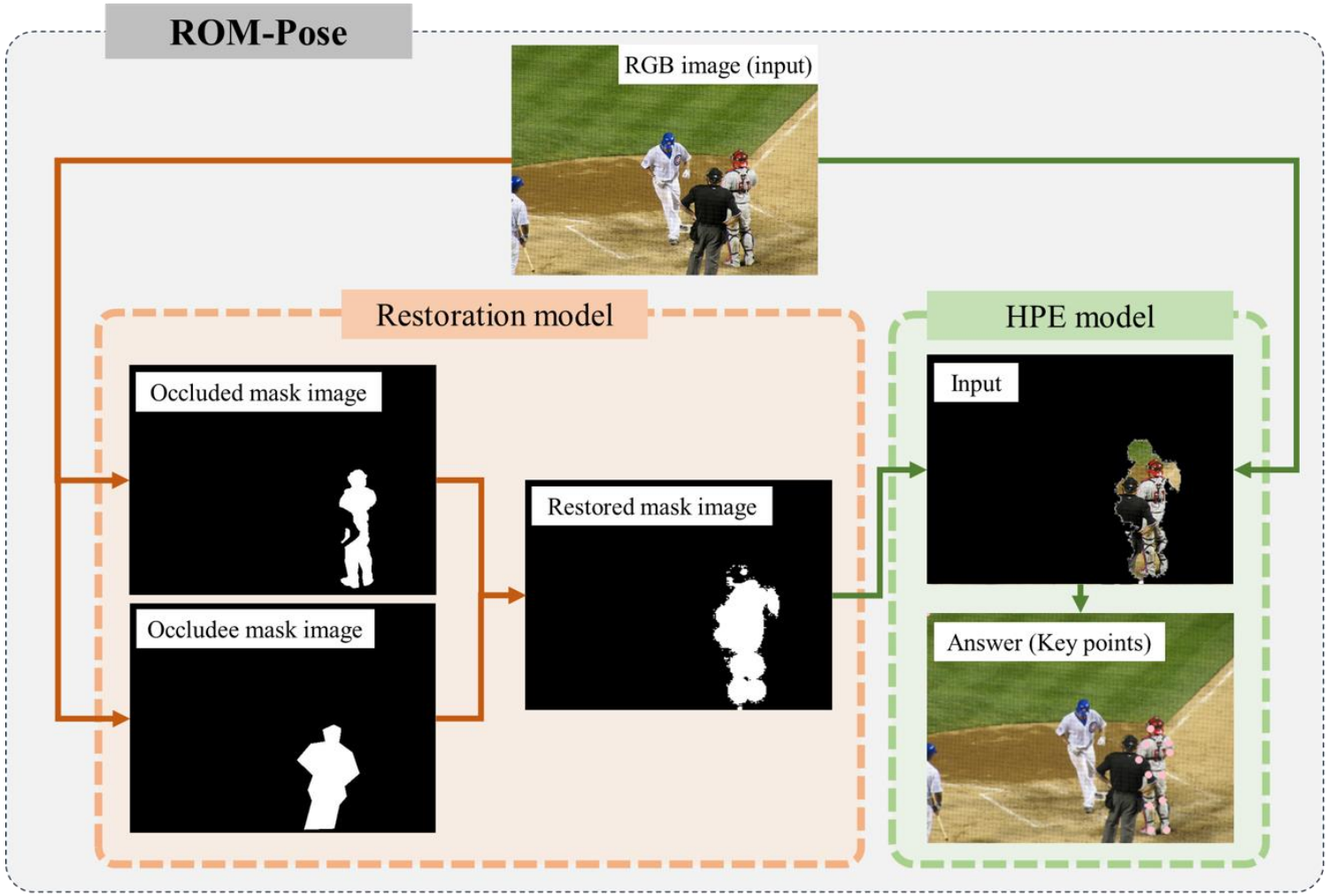


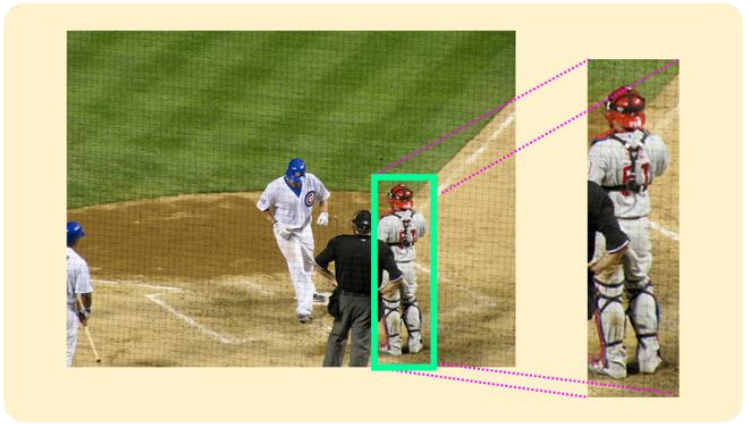




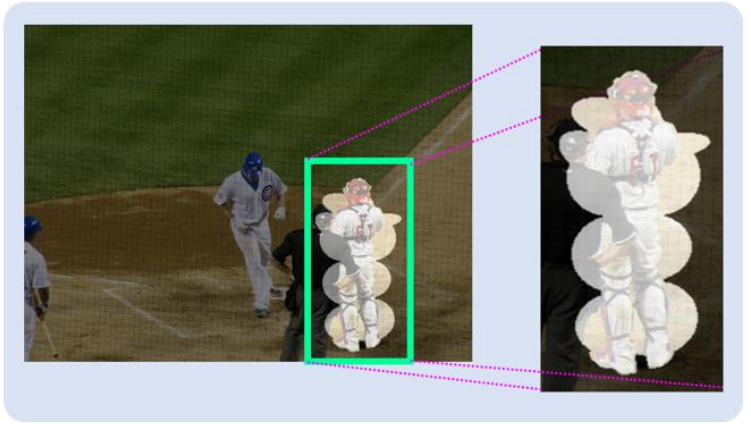


Human Pose Estimation with restored occluded mask image





(a) Original input image



(b) ROM-Pose input image

Thank You