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EPR402 Project Progress Meeting #6

Eng 1-13-17



- Embedded hardware that can run the computations needed for system basically a PC – unnecessary and doesn't gain much functionality.
- OpenGL rendering perspectives + rotation of perspectives on the right track – now know what the virtual object requires in terms of input
- Traditional static gesture recognition models not good enough – need precision for control of object
- Further stretch goals of project – shrinking and growing of cube with certain gestures
- On track to meet the semester's goal of producing a prototype of entire system with prebuilt components
- In CNNs the number of pooling + convolution layers = problem dependent and optimal number/arrangement found by experimentation
- Object recognition + localization requires different data reduction techniques– number of layers and values of hyperparameters change
- Number of layers = a hyperparameter that requires trial and error or a grid search
- Grid search = find best performance of model by altering hyperparameters in various ways
- Hyperparameters = high-level variables such as number of layers, learning rates, arrangement of layers that are decided by user and affect model performance
- Research on surface extraction and detection is next task
- Prototype on surface extraction and detection = next prototype to build
- Next week is another presentation of current prototypes
- Get hand model working by start of August in order to maintain progress
- August = work mainly on virtual reality system from first principles
- September = integration + refinement + tests of entire system
- 1st October stop working on project – focus on report writing up to the results section and only then return to polishing system for demonstration