Augmented Reality for Constructing LEGO

Project BRICKxAR: No instruction booklets are needed: LEGO Arc de Triomphe can be built completely with Augmented Reality (AR). Real brick construction is guided by virtual bricks. Realistic occlusions between physical and virtual bricks are enabled in the step-by-step construction process (US patent granted). Multi-phase 3D model alignment between physical and virtual models is achieved while the physical model updates in each step of construction (patent pending). The construction is augmented by information about architecture at the right steps. BRICKxAR is expected to assist both human users and vision-guided robots in complex assembly and construction tasks. (NSF I-Corps Project)