NAME: AR based Smart Glasses

INTRODUCTION: We programmed XILINX Artix-7 platform to achieve some augmented reality applications on our smart glasses. By using Vivado HLS, we designed our IP cores including detecting four green dots at the same time and perspective transformation of the rectangle area. For the RTL design, we programmed the FPGA to drive the CMOS camera and to do the color space transformation between RGB and HSL. Within all the functions achieved, our glasses can do AR applications like taking notes, painting, and automatically translating.