

Juwan Hong

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Engineering Experience

MPR Associates, Electrical Engineer
Alexandria, VA

August 2015 - Present

- Project 1:
 - 6-layer rigid-flex PCB design with LiPo battery management (4S), PIC32 microcontroller, motor controller
 - Full-cycle development project. Proof-of-concept, 2 rounds of prototypes, manufacturing design transfer, manufacturing verification testing fixture
 - Device currently on market
- Project 2:
 - Handheld commercial medical device. Space and power constraint design
 - Multi-part PCB design with 6 separate boards, 40x40mm size constraint, 1.5W power constraint, Spartan VI FPGA, STM32 Microcontroller, MicroSD card, USB, touchscreen LCD, CMOS camera sensor
 - Modified and added to image processing algorithms for CMOS camera using Spartan VI FPGA (VHDL)
 - Full-cycle development project. Device currently on market.
- Project 3:
 - Wearable commercial medical device
 - Multi-part PCB design with 14+ boards, 8-layer rigid-flex, iMX8 processor, wifi/bluetooth, RFID, LCD, motor controllers, STM32 microcontroller, cameras
 - Currently on first prototype cycle
- General:
 - Rapid prototyping
 - Board bring-up and debugging (logic analyzer, oscilloscope, spectrum analyzer)
 - Verification testing
 - Support EMC testing for medical devices following IEC 60601-1-2
 - Firmware development and debugging with software team
 - Working closely with software, mechanical, industrial design teams
- Tools:
 - Altium Designer, C, Java, MATLAB

Education

Columbia University, *New York, NY*
Computer Science

M.S. May 2020

Duke University, *Durham, NC*
Double major in Electrical/Computer and Biomedical Engineering

B.S. May 2015