Win Win Tjong

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PROFESSIONAL EXPERIENCE

MIT Human-Computer Interaction(HCI) Engineer Group **Sep. 2025 - Current**
Research Assistant *Cambridge, MA*

- Identified and addressed 3D printing waste challenges, optimizing processes to reduce environmental impact and promote recycling.
- Employed computational tools to improve waste material identification, supporting sustainable recycling initiatives.

ULVAC **Jun. 2025 - Aug. 2025**
Embedded Systems Intern *Chigasaki, Kanagawa, Japan*

- Developed and verified software for programmable logic controller (PLC) used for ion implanting testbench, enabling functional testing of individual subsystems.
- Simulated and debugged PLC code pre-deployment, reducing errors during testing by identifying and resolving issues in advance.

De-Ice **Jun. 2024 - Aug. 2024**
Electrical Engineer Intern *Somerville, MA*

- Developed test setup that streamlined hardware validation by reducing manual disassembly and assembly steps, enabling more efficient and continuous testing.
- Designed and implemented a PCB card extender in Altium to enable robust hardware testing under high-stress conditions, improving board reliability validation.

PROJECT

Makey Makey **Apr. 2025 - May 2025**

- Developed mmWave radar sensing system to detect machine operation state within a shared workspace.
- Implemented classification algorithm that distinguished machine activity from human presence, improving detection accuracy by 87% and enabling predictive scheduling of equipment usage.

FPGA Voxel Ray-Tracer **Oct. 2024 - Dec. 2024**

- Developed a voxel-based ray-tracing system on FPGA hardware, leveraging voxel reflections for simplified light calculations.

EDUCATION

Massachusetts Institute of Technology (MIT) **Feb. 2026**
Bachelor of Science in Electrical Engineer and Computer Science *Cambridge, MA*

- **Relevant coursework:** Robotic Manipulation, Computer Graphics, Dynamical System Modeling and Control Design, Digital Systems Laboratory, Mobile and Sensor Computing

SKILLS

- **Programming Languages:** SystemVerilog, Python, C, C++, Javascript, Rust, MATLAB Assembly
- **Hardware:** FPGA, PLC, microcontroller, mmWave radar, 3D printer, CNC
- **Software:** Fusion 360, SolidWorks, KiCAD, Altium, Git, CocoTB, Drake