KWOK HUNG JOHN HO

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EDUCATION

UC San Diego - GPA 3.3   *Grad Date: Jun 2021 — La Jolla, CA*

B.S Candidate in Electrical Engineering with depth in Systems, Machine Learning and Controls

B.S/M.S Candidate in Intelligent systems, Robotics and Controls

EXPERIENCE

ASTRI - Science Park, Hong Kong   19th Jun 2018 to 27th Jul 2018

Software Engineer   17th Jun 2019 to 20th Sept 2019

- 2018: Modified design of Greenscreen Chromakey algorithm (C++, MATLAB, OpenCV) for 2 cameras. Implemented modifications onto NVIDIA Jetson TX2 via the use of GPU-Code to achieve real-time performance. Document and keep track of work and report to mentor daily with Microsoft PowerPoint Presentations.

- 2019: Developed an augmented reality UWP application for the Microsoft HoloLens which allows the user to spawn an object via gestures at the location of an AR tag. Utilized WebSocket protocol to send and receive JSON messages between ROS and HoloLens. Designed GUI, gathered relevant libraries, and wrote scripts within Unity (C) to interpret SLAM from HoloLens localization, pose of AR Tag from image and spawn object. Wrote ROS publisher and subscriber nodes (C++) allowing communication between the HoloLens and ROS.

PROJECTS

UCSD Smart Wheelchair Lab

Developed PCB which links several modules of the wheelchair, including camera and motors and worked on SLAM algorithm through sensor tracking and feedback data for smarter pathing of wheelchairs.

Polar Coffee (Web Development)

Developed IoT features using a Raspberry Pi for our Smart Iced Coffee Machine through a quarter-long project. Created a website that tracks user data and allows remote control of the machine through MQTT protocol.

Green Fuel Cell (ESW)

Developed a working hydrogen fuel cell alongside a team of engineers as part of a multi-quarter long project with Engineers for a Sustainable World.

Machine Learning Classifier

Wrote a program from scratch that classifies pictures of numbers using least squares and k-means clustering. Also wrote a program that classifies any data set using non-linear least squares.

Folded Cascode OTA Amplifier Design

Completed a project of designing and biasing an amplifier to meet a range of specifications including gain, power dissipation, bandwidth and device sizing.

SKILLS

Programming:	**MATLAB**, **Python**, LabVIEW, C#
Modeling and Analysis:	Autodesk EAGLE, LTspice, Cadence Virtuoso, Unity, SolidWorks
Web Development:	Javascript, HTML, CSS, REST API, MySQL
Software & Tools:	Linux, ROS, LaTeX, Git, Docker, PyTorch, OpenCV
Microcontrollers:	Arduino, NVIDIA Jetson Nano, NVIDIA Jetson TX2, BASYS Board