Kwok-Hung Ho

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Education

Master of Science, Intelligent Systems, Robotics and Control. **Expected: Jun 2023 — La Jolla, CA**
University of California, San Diego

Courses: Convex Optimization, Sensing & Estimation in Robotics, Stochastic Processes in Dynamic Systems
Notable Projects: Particle & Kalman filter SLAM, Lasso Regression Paper, EM-based Movie Reccomender

Bachelor of Science, Electrical Engineering. **Graduated: Jun 2021 — La Jolla, CA**
University of California, San Diego

Courses: Analog Circuit Design, Integrated Circuit Design, Linear Control System Theory, C++ OOP
Notable Projects: IoT Iced Coffee Machine, Folded Cascode OTA Amplifier

Experience

3D Systems – San Diego, CA. Jun 2022 – Sept 2022
Data Science Intern
Full-stack development for internal tools used by bioprinting R&D team.

- Created a web dashboard to monitor live statuses of 3D bioprinters, cutting traversal times to the labs. Can monitor print progress/material/temperature, and can download logs/build files. **(NextJS, NodeJS, Socket.io)**
- Designed and implemented an autofocus procedure for all 3D bioprinters; reduced time to focus printers manually from 1hr+ to <1 min. **(OpenCV, C++)**

Application Technology Company Limited – Science Park, Hong Kong. Jun 2021 – Sept 2021
AI Specialist Intern
Deep-Learning model development for multiple computer vision contract-based projects.

- Quantized deep learning models for edge TPU cameras, improving inference fps from 5 to ~30. **(TensorFlow, TFLite)**
- Implemented a Face Detection + facemask classification model with high precision and recall ~91%. **(ResNet, PyTorch)**
- Trained a suitcase detection model with data gathered from web crawling; Later was paired with a human tracking model to develop an anti-smuggling detection algorithm and alert system to be deployed at the Hong Kong International airport.

Risksis Technology Limited – Science Park, Hong Kong. Mar 2021 – Jun 2021
Fullstack Engineer Intern
Full-stack engineering involving web development and Machine Learning (NLP).

- Wrote Python scripts to analyze PDF documents with OCR and Natural Language Processing to be stored in database.
- Created a SPA-application dashboard to query the database. **(Tesseract, BERT, VueJS, ASP.NET, MongoDB)**

ASTRI – Science Park, Hong Kong. Jun 2019 – Sept 2019
Software Engineer Intern

- Developed an augmented reality UWP application for the Microsoft HoloLens with Unity (C#) and ROS which allows the user to spawn URDF ROS objects via hand gestures at the location of AR tags.

Projects

CryptoTracker.fyi – Website

- Created a website that tracks cryptocurrency prices and news. Allows users to sign in and personalize their dashboard with **CRUD** operations. Has authenticated routes with JWST, and session cookies. Built with **MERN** stack and hosted on a SSL-secure AWS EC2 instance.

CloudInference.app – Website

- Created a website to host all my machine learning projects. So far contains a text summarizer. **(Django, NextJS, SpaCy)**

Programming/Tools: Python, JavaScript, Python, C++, C#, SQL, Linux, Git, Docker, React, ASP.NET, CSS/Tailwind, AWS

Machine Learning/Robotics: Convex Optimization, Bayesian/Particle/Kalman Filtering, shortest path algorithms: (A*, D*, RRT), Expectation-Maximization, Maximum Likelihood Estimation, Linear/Logistic/Lasso/Ridge Regression, Image Processing, Reinforcement Learning (Value/Policy iteration), Markov Chains, Support Vector Machines, Unsupervised Learning