Kwok Hung (John) Ho

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EDUCATION

UNIVERSITY OF CALIFORNIA SAN DIEGO

MS in Intelligent Systems, Robotics & Control
Expected: Jun 2023 | La Jolla, CA

UNIVERSITY OF CALIFORNIA SAN DIEGO

BS in Electrical Engineering
Graduated: Jun 2021 | La Jolla, CA

LINKS

Portfolio:// **johnkhh**
LinkedIn:// **johnkhho**
Github:// **johnkhk**

COURSEWORK

GRADUATE

Digital Image Processing
Convex Optimization
Sensing & Estimation in Robotics
Planning & Learning in Robotics
GPU Programming in CUDA
Functional Programming in Haskell
Reccomender Systems & Web Mining
(Research Asst. @ surgical robots lab)

UNDERGRADUATE

Analog Design
Active Circuit Design
Linear Control System Theory
Machine Learning
Object Oriented Programming
ARM Assembly Programming
Product Engineering

SKILLS

PROGRAMMING

Strong:
Python • C++ • JavaScript • Matlab
Familiar:
Java • C • C# • MySQL
Haskell • LabVIEW • CUDA • Verilog

WEB DEVELOPMENT

React • Node • Django
Angular • ASP.NET • Vue
REST APIs • GraphQL

TOOLS & FRAMEWORKS

Git • Docker • Shell • CMake
PyTorch • TensorFlow • ROS
Pandas • NumPy • Grafana • Matplotlib

EXPERIENCE

3D SYSTEMS | Data Scientist Intern

Jun 2022 - Sep 2022 | San Diego, CA

- Full-stack development for internal tools used by bioprinting R&D teams
- Created a fleet-monitoring system for all our 3D bioprinters. Employees reported saving 30 minutes a day of traversal time to the lab.
- Designed an auto-focus software for all 3D bioprinters, removing risk of error from manual focus and reducing focusing time from 1 hour to 5 minutes.

APPTECH | AI Specialist Intern

Jun 2021 – Sep 2021 | Science Park, Hong Kong

- Quantized deep learning models for deployment in edge TPU cameras, improving inference speed from 5fps to 30fps.
- Trained a Face Detection + Facemask Classification model using ResNet18 and PyTorch, achieving a 91% F1 score. Then improved the inference speed by 4x using TensorRT running on an NVIDIA Jetson TX2.
- Trained a suitcase detection model and a human-tracking model. Then developed an algorithm to determine if the human owns the suitcase.

RISKSIS | Software Engineer Intern

Mar 2021 – Jun 2021 | Science Park, Hong Kong

- Created Python pipelines to retrieve text from PDF documents, analyze them using Natural Language Processing and then storing the data in a MongoDB and Elasticsearch database.
- Created a Vue and ASP.NET application that allows users to perform complex queries on the databases.

ASTRI | Software Engineer Intern

Jun 2019 – Sep 2019 | Science Park, Hong Kong

- Developed an augmented reality application for the Microsoft HoloLens with Unity (C#) which allows the user to spawn objects via hand gestures on top of AR tags, allowing one to digitally tour the layout of our autonomous warehouse.

PROJECTS

CRYPTOTRACKER | Demo

MERN stack website that tracks Cryptocurrency prices and news. Allows users to sign in and customize their dashboard. Has authenticated routes with JWT, and keeps users logged in with session cookies.

CLOUDINFERENCE | Demo

Created a website that summarizes text using Django, SpaCy, and NextJS. Hosted on AWS Elastic Beanstalk and Vercel.

POLAR COFFEE | Demo

With a team of 4, created an IoT Smart Iced Coffee Machine MVP product. Developed hardware and IoT features, and presented our business plan that won us best startup team project in a class of 200 students.

SLAM WITH TEXTURE MAPPING | Demo

Implemented efficient 2-D particle filter SLAM from scratch using lidar, wheel encoder and gyroscope data from a self-driving car. Also implemented Kalman Filter SLAM with additional IMU and Stereo Camera data. Wrote a paper describing the implementation.