


NICHOLAS

LAU Cheuk Kit

Software Engineer, Researcher

PERSONAL INFO

 nicholaslck@gmail.com

 +852 68552866

 <https://github.com/nicholaslck>

 <https://nicholaslck.github.io>

AVAILABILITY

2-months notice

EDUCATION

MPhil in Computer Science and Engineering

The Chinese University of Hong Kong
SEP 2021 - JUL 2023

B.Sc in Computer Science

The Chinese University of Hong Kong
SEP 2013 - JUL 2017

CERTIFICATIONS

Professional Cloud Architect

Google Cloud
DEC 2023 - DEC 2025

TECH STACK

Javascript Typescript Python

Swift Java Objective-C

Kotlin Svelte React Vue

TailwindCSS Less Next.js

Nuxt.js Gatsby Nest.js

GCP AWS Docker Jenkins

JMeter Spring



README

Passionate software developer and researcher with expertise in AWS and GCP, container based hosting, application development, AI deep learning model training, and fundamental knowledge of encryption and web securities. Hands-on experience on DevOps. Research focus on computer vision, image processing via deep learning, and information encoding. Enjoys shuttlecock, rock climbing, and scuba diving.



PUBLICATION

Taming Reversible Halftoning via Predictive Luminance

Cheuk-Kit Lau; Menghan Xia; Tien-Tsin Wong

(TVCG 2023)

Predictor-embedded approach offloads predictable information from network, allowing flexibility to produce halftones with better blue-noise quality without compromising restoration quality.

<https://nicholaslck.github.io/predreshalf/>



CHANGELOG

CURRENT

Decathlon Hong Kong Limited

MAR 2020 Senior Software Engineer

Front-end application development includes SPA, SSR.
Cypress automated test management for team continues contribution.
Development and maintenance on Hong Kong official Decathlon website

JUN 2019 iOS Developer

Application development includes iOS / Android / Web-front / Kiosk etc.
Implement CI/CD pipeline for projects.
Open source contributions within company international organization repos.

Green Tomato Limited

JAN 2019 Senior iOS Developer

Native iOS app development and enhancement.
Include shopping mall apps and banking apps.
Experience in interacting with iBeacon and Location related development.

TFI Digital Media Limited

OCT 2018 Senior Programmer (iOS)

JUL 2017 Programmer (iOS)

Developing iOS app with Swift and Objective-C.
Create and maintain common libraries for internal usage.
Develop app using MVC and MVVM frameworks with RxSwift support.

FEB 2017 Software Engineer (Part-time)

Research focus related to 360 media encoding and streaming.
Isolated and work independently.
Focus on C++, OpenCV and FFmpeg library on Linux

Hong Kong RFID Limited

JUN 2016 Web Programmer (Part-time)

Responsible for managing and improving the front-end and back-end coding.
Design websites layout cor clients.
Write scripts for colleague internal batch operations.



PROJECTS

(Sorted from latest to oldest)

Tldraw with ollama

This project offers users the opportunity to draw wireframes and generate HTML templates by utilizing LLaVA models. It is an adaptation of the tldraw-make-real project. Rather than relying on the external OpenAI GPT-4 API, this project integrates with ollama, enabling offline inference. This empowers developers to design and test without the need for corporate AI dependencies.

<https://github.com/nicholaslck/tldraw-ollama>

RabbitStudio Website

This is a one-month freelance contract where I built the company public website for RabbitStudio. Starting from scratch, I developed the site using Nuxt.js. The website included impressive Lottie animations and CSS transitions. It was a server-side rendered (SSR) application hosted on a single docker container.

<https://rabbitstudio.net>

Predictive Reversible Halftoning

The objective of this research project was to convert color images into halftone images while ensuring reversibility. This means that the resulting black and white halftone image could be transformed back into the original color image using a deep learning model. The project was implemented using PyTorch, and extensive experiments were conducted to validate the approach. The findings and methodology of this project were published in the TVCG journal in 2023.

<https://nicholaslck.github.io/predreshalf/>

Digital Showroom

A Next.js Single Page Application (SPA) was developed to showcase large items that are not feasible to display in physical retail stores. The application was deployed on EC2 servers with a load-balancer serving as the front-end. This project was initiated in 2019 and ceased operations in 2023.

MyCard HK

This project aims to encourage customers at stores to register as Decathlon members by using a streamlined process. This enables users to become members immediately while in the store, improving the user experience. The project is an Android app developed in Java and deployed on the store's kiosk. It was initiated in 2020 and is currently operational.

Hang Seng Bank iOS

This is the go-to personal banking app utilized by Hang Seng customers in Hong Kong. The app was built using a CLEAN architecture, ensuring a modular and testable interface. As part of the development team, I primarily focused on creating the personal loan application form, which incorporates dynamic rendering and rigorous value validation to ensure accurate and secure submissions.

<https://apps.apple.com/us/app/hang-seng-personal-banking/id1039256353>

Tsz Shan Audio Guide

This captivating iOS app provides a unique experience by offering voice guidance as you navigate through Tsz Shan Temple. Leveraging the Bluetooth sensor and iBeacons strategically placed throughout the temple, the app automatically updates your location when you approach an artifact. Consequently, it plays the relevant audio guide, enhancing your visit to the temple.

<https://apps.apple.com/hk/app/svaha-app-tsz-shan-audio-guide/id1097678871>

Link Up iOS

The shopping mall app is owned by Link Asset Management Limited and was developed using Objective-C. Due to multiple developers working on the app and the complexity of technical debt, the primary focus has been on maintenance and bug fixes to ensure its smooth operation.

<https://apps.apple.com/hk/app/%E9%A0%98%E5%B1%95-link-up/id1041283265>

i-CABLE News iOS

The project involved the development of an iOS app that serves as a news display platform and enables users to upload instant videos for reporting urgent news. The app was developed following the MVVM architecture, ensuring a structured design. To handle the signal processing, we utilized RxSwift, which allowed for a testable code base and efficient implementation. Currently the latest version of the app has been revamped after I left.

ATV iOS

This app was created as part of ATV's comeback as an online broadcasting company. It serves as a platform for users to access VOD contents and live streams. Developed using Objective-C and following the MVC architecture, the app features a visually captivating landing view with a circular wheel-like menu. Implementing the intricate geometry required for the menu was a challenging task. The first app I have ever made. Currently the latest version of the app has been revamped after I left.