

Ching-Cheong Lee

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I graduated from HKUST with an M.Phil degree in Mathematics, worked in both academic and nonacademic fields, with solid knowledge in front-end programming. I am also confident in both software development and AI models development for solving problems in diversified scenarios.

Portfolio and Personal Homepage

I keep sharing my blog post as a record of what I have learnt. I also list some of my side projects there:

<https://machingclee.github.io/blog>

Experience

Software Engineer

mid-May 2023 - Present

Wonderbricks Limited

Hong Kong

- Build, revamp and maintain React projects in Typescript.
- Build Mobile Application.
 - **Frontend.** **1** Real-time chat by socket.io and react-native in typescript. **2** Convert voice, image, plaintext into summary in excel format. **3** Create custom interactive UI component using react-native-reanimated.
 - **Backend.** **1** Develop entire backend application from scratch by nodejs, express, socketio, etc. **2** Develop Lambda function in python for LLM summary report excel generation. **3** Research on latest frameworks, persuade by POC and bring decision to transit from mongodb into postgresql. **4** Containerize the web application and deploy onto ECS fargate behind a load-balancer.
- Maintain Springboot project, build APIs using both MySQL and MongoDB.
- Migrate part of the old services from java backend to Serverless Lambda Functions in Python.

AI Engineer

mid-Aug 2022 - 04/2023

Eye Catching Limited

Hong Kong

- Help maintain angular project.
- Study eye-tracing related algorithm.
- Study and deploy machine learning algorithm in web-app and desktop-app.

Senior Software Developer

09/2021 - mid-Aug 2022

RaSpec Intelligence Inspection Limited

Hong Kong

- Maintain React Next project.
- Data scrapping of house transaction records, automation on tracking latest rtk-data on geodetics website.
- **AI Related.** Implemented the following using PyTorch.
 1. **Text Detection and Removal.** In order to perform defect classification on signboard, I am responsible to create models for text detection and text removal to remove possible noise that interfere our defect classifier.
 2. **Crack and Rust Detection.** Both using faster rcnn.
 3. **DefectGAN.** Successfully implemented a DefectGAN (no source code available yet in paperswithcode) that creates crack, spalling, etc synthetic data for defect detection.
 4. **Model Integration with Backend.** Exposed clean enough API for software integration.

Software Engineer

09/2020 - mid-08/2021

EAB Systems (Hong Kong) Limited

Hong Kong

- **Frontend Related.** Build video conferencing frontend and backend application in React, Twilio.js and express.js. Build CMS system that lets users create their own single page application.
- **Deep Learning Related.** Build CSV Importer (together with an express layer, a Flask layer and a tensorflow-serving layer) that can parse a csv/excel file and perform:
 1. **Data Classification.** Classify column based on existing data using LSTM model with two dense layers and finally a softmax.

2. **Auto Date-reformatting.** Based on machine learning model (transformer) that can translate all common form of date into YYYY-MM-DD format.

Data Classification and Auto Date-reformatting are separately two models placed inside tensorflow-serving for deployment.

Front-end Developer

09/2019 - 08/2020

eLearningPro

Hong Kong

- Create HTML5 Coursewares, maintaining web pages and constructing frontend application using React.

Senior Research Assistant

03/2015 - 10/2015

Department of Mathematics, Hong Kong Baptist University

Hong Kong

- Study HJB equations arised in a specific financial games

Research Assistant

09/2014 - 02/2015

Department of Mathematics, Hong Kong University of Science and Technology

Hong Kong

- Study the property of viscosity solution of HJB equations

Education

MicroMaster in A.I. and Programming

03/2019 - 06/2019

Tecky Academy, Hong Kong

M.Phil. in Mathematics

09/2012 - 08/2014

The Hong Kong University of Science and Technology, Hong Kong

B.Sc. in Mathematics (First Class Honor)

09/2009 - 06/2012

The Hong Kong University of Science and Technology, Hong Kong.

Skills

Source Control

- Git

Deployment

- Docker • Basic CI/CD Pipeline in Gitlab

Cloud (AWS)

- Security Group • Target Group • ECS with EC2 or Fargate • Route53 • Load Balancer • S3 • CloudFront • Lambda Functions

Java

- Springboot • Hibernate • MyBatis

C#

- Windows Presentation Foundation

C++

- CMake Ecosystem • Libtorch • OpenCV • ImGui for Desktop App

Python

- Tensorflow v2 • PyTorch • Pandas • Flask • ONNX • Openpyxl • Boto3

Typescript

- React • React-Native • Redux • Redux-Saga • Next.js • Electron.js • Electron with Next.js • Node.js • Express.js • Socket.io • Twilio.js • Knex.js • Mongoose.js

Deep-Learning

- Embed custom trained pytorch model in ONNX format into frontend
- Implementation from scratch and training experience with CNN such as
 - Object Detection
 - Text Detection with Rotation
 - Image Classification
 - Image Generation and Image In-painting
- Implementation and training experience with LSTM Model and Transformer to do:
 - Summarization on a column of data
 - Translation of random date format into standard YYYY-MM-DD one