

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. Passionate about problem solving, which pushes me to expand my technical skills persistently.

Portfolio and Personal Homepage

I keep sharing what I have learnt via my blog posts. I also list some of my side projects there:

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

Experience

Software Engineer

Wonderbricks Limited

mid-May 2023 - Present

Hong Kong

- Build, revamp and maintain React projects in Typescript.
- Build Mobile Application.
 - **Frontend.** ① Real-time chat app by socket.io and react-native (with expo-cli) in typescript. ② Convert voice, image, plaintext into summary presented in excel format via LLM Model API. ③ Create custom interactive UI components 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 to final decision for transiting from MongoDB into PostgreSQL. ④ Containerize the node application and deploy it to ECS Fargate, served by a load-balancer.
- Maintain (haven't tried to init) Springboot project, build APIs using both MySQL and MongoDB.
- Migrate part of the old services from java backend to Serverless Lambda Functions in Python.
- Create automated deployment workflows for frontend and backend via github actions.
- Use RabbitMQ as a message-broker to ① rate limit specific api which has a limit of 100 concurrent calls (azure open-ai service), ② delay actions by means of Dead-letter Queue ③ separate a chain of relative long API calls that may even fail (like parsing of json string from chat-gpt, excels generation, etc), handle and log the corresponding error individually.
- Initiated a google-authenticated documentation frontend project by using Docusaurus to document every detail of a project that a developer should know, including technical and non-technical stuff (like change record, studies and methods for distributing app to tester, etc.)
- Lead, guide and nurture junior programmer by constantly sharing my thoughts in blog and related youtube videos at appropriate time when there are knowledge they lack of.

AI Engineer

Eye Catching Limited

mid-Aug 2022 - 04/2023

Hong Kong

- Help maintain angular project.
- Study eye-tracing related algorithm.
- Study and deploy machine learning algorithm in web-app ① in react with onnx and ② desktop-app in C++ with libtorch.

Senior Software Developer

RaSpec Intelligence Inspection Limited

09/2021 - mid-Aug 2022

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

EAB Systems (Hong Kong) Limited

09/2020 - mid-08/2021

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 • Github Actions
Cloud (AWS)	• Security Group • Target Group • Load Balancer • ECS with EC2 or Fargate • Route53 • S3 • CloudFront • Lambda Functions
Java	• Maintain Springboot • Hibernate • MyBatis • JOOQ
C#	• Windows Presentation Foundation
C++	• CMake Ecosystem • Libtorch • OpenCV • ImGui for Desktop App
Golang	• Gin • Goose • Sqlc • Azure-sdk for Voice
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 • Prisma.js • Prisma-Kysely.js
Deep-Learning	• Embed custom trained pytorch model in ONNX format into frontend • Implementation from scratch and training experience with CNN such as <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • Summarization on a column of data • Translation of random date format into standard YYYY-MM-DD one