

TAY Kai Yang

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EDUCATION

National University of Singapore

Aug 2018 – Jun 2022

Bachelor of Engineering in Electrical Engineering

(expected)

- Second Major in Innovation and Design
- NUS Merit Scholarship
- Current Cumulative Average Point (CAP): 4.79/5.0
- Dean's List – AY19/20 Semester 1 & 2

WORK EXPERIENCE

ByteDance

May 2021 – Aug 2021

Product RD and Infrastructure – Video Architecture

Data Engineering Intern

- Proposed and implemented data processing jobs to reduce storage requirements by a factor of 1000
- Developed monitoring alerts using Bosun to supervise the stability of Kafka partitions
- Created serverless functions to support video archive service
- Backend development to enhance implementation of video deletion architecture

Shopee

Dec 2020 – May 2021

Anti-Fraud – Know Your Customer (KYC)

Data Science Intern

- Implemented and benchmarked deep learning models from research papers
- Assessed inference frameworks' performance: TensorRT, Apache TVM, ONNX Runtime
- Model compression with Tensorflow Lite post-training quantization and knowledge distillation

NDR Medical Technology

Jul 2020 – Nov 2020

Machine Learning Engineer Intern

- Smart robotic biopsy needle path planning for lung biopsy
- Developed algorithm for automatic needle alignment using X-ray images to assist surgeons with needle insertion
- Developed needle detection capabilities using image processing techniques and object detection neural network
- Developed data augmentation scripts to generate new images for training to improve model accuracy

PROJECTS

Feasta – A restaurant suggestion service

Jul 2021

- Developed an end-to-end deep learning based solution that recommends restaurants based on user input query
- Developed a REST API with a distributed task queue to efficiently process incoming queries on the backend
- Utilized TensorFlow serving for inference using a sentence embedding model
- Deployed the backend systems with Kubernetes on Google Kubernetes Engine
- Developed web app using React (eatwhat.one)

ACTIVITIES

DSTA BrainHack 2020 – Today I Learned (TIL) Artificial Intelligence (AI) Camp

Jun 2020 – Jul 2020

- Achieved 1st place out of 92 Uni/Poly teams
- Implemented transfer learning to create object detection models
- Adapted image augmentation script into data pipeline to enhance model training
- Developed code logic and applied object detection models in robot to autonomously identify objects, navigate obstacles and retrieve target

SKILLS AND COMPETENCIES

- **Technical Skills:** Python, Golang, SQL, Typescript, Docker, Kubernetes, Deep Learning, Computer Vision
- **Soft Skills:** Design thinking, Public Speaking, Leadership, Communication, Problem-solving, Adaptability