

Koa Zhao Yuan

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EDUCATION

Yale-NUS College

Aug 2019 – Present

Bachelor of Science in Mathematical, Computational and Statistical Sciences

GPA: 4.71

- Recipient of the flagship Yale-NUS Global Leader Scholarship
- Peer Tutor for YSC1212 Introduction to Computer Science

EXPERIENCE

Student Associate (Web Development)

Jan 2021 – Present

Yale-NUS College

Singapore

- Developing a database that stores relevant astrophysical data like molecular line detection
- Using React for front-end for easy querying and submissions of new data
- Using Flask (and SQL) as the back-end for storing of database

R&D OCR Intern

Dec 2020 – Jan 2021

SmartJen

Singapore

- Implemented OCR engine that processes handwritten mathematical expressions
- Implemented Character Segmentation Algorithm for OCR Engine using OpenCV2
- Trained Convolutional Neural Network of OCR Engine using Tensorflow and Keras
- Used Flask to deploy a proof-of-concept auto-grader that uses OCR Engine

Research Associate (Molecular Simulation)

Aug. 2020 – Dec. 2020

Yale-NUS College

Singapore

- Worked on modelling molecular interactions between poly-peptides and water molecules using Python
- Used libraries like OpenMM, a Python library for molecular simulation

Research Assistant (ML-based Solubility prediction)

May 2020 – Aug 2020

Yale-NUS College

Singapore

- Evaluated effectiveness of various existing solubility models and visualized results using matplotlib
- Used machine learning to predict solubility of various substances using pandas and scikit-learn
- More details in my GitHub (https://github.com/virtuoso98/ML_Liquid)

PROJECT

Personal Website

Mar 2021

<https://www.kzhaoyuan.com/>

- Built and hosted a personal website using React.js, Material-UI and Amazon Web Services(AWS).
- Included utilities for Search Engine Optimization on website to maximize visibility.

EXTRACURRICULARS

Yale-NUS Contract Bridge

Aug 2020 – Present

Treasurer

- Planned and projected the expenditure throughout Academic Year 2020/2021
- Organized welfare events to foster cohesion among teammates

TECHNICAL SKILLS

Languages: (*Proficient*): Python, OCaml, Javascript (*Familiar*): C++, HTML/CSS, R

Libraries: Tensorflow, Keras, OpenCV2, OpenMM, pandas, scikit-learn, Matplotlib

Frameworks: React, Flask