

Koa Zhao Yuan

+65-98213670 | k.zhaoyuan98@u.yale-nus.edu.sg | <https://www.linkedin.com/in/zhaooo/> | github.com/virtuoso98

EDUCATION

Yale-NUS College

Aug 2019 – Present

Bachelor of Science in Mathematical, Computational and Statistical Sciences

GPA: 4.71

- Recipient of the full-ride, bond-free Yale-NUS Global Leader Scholarship only awarded to the best applicants
- Relevant Coursework: Introductory Data Structures and Algorithms, Modelling and Optimization, Functional Programming and Proving, Proof, Introduction to Data Sci

TECHNICAL SKILLS

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

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

Frameworks: React, Flask

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 algorithm that identifies individual characters within a mathematical expression using OpenCV2
- Trained Convolutional Neural Network to recognize mathematical characters using Tensorflow and Keras
- Combined both of these in an proof-of-concept OCR engine using Flask to auto-grade math problems

Research Associate

May 2020 – Present

Yale-NUS College

Singapore

- Evaluated effectiveness of various existing solubility models and visualized results using matplotlib
- Used linear regression techniques to predict solubility of various substances using pandas and scikit-learn
- Findings published in Science Advances under a paper titled "Like dissolves like" (Second Author)
- Invited to continue research on modelling molecular interactions between poly-peptides and water molecules

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

Peer Tutor

Jan 2021 – Present

YSC1212 Introduction to Computer Science

- Hosted one-to-one and group sessions explaining computational concepts such as recursion to unit-testing
- Communicated concepts in manner that is accessible even to students who are not majoring in computer science