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)

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

Yale-NUS Data Science Society — Oct 2019 – Apr 2020
Events Manager
- Oversaw logistics of 'Beyond the Haze', a Datathon organized on 1 Nov 2019
- Supervised a team of five students to first place in the aforementioned datathon that analyzed the effects of haze on the Singapore economy

TECHNICAL SKILLS

Languages: (*Proficient*): Python, OCaml, Javascript (*Familiar*): C++, HTML/CSS, R
Libraries: Tensorflow, Keras, OpenCV2, OpenMM, pandas, scikit-learn, Matplotlib
Frameworks: React, Flask