

NICHOLAS KO

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EDUCATION

YALE-NUS COLLEGE

Bachelor of Science, Data Science Major

Singapore

2020 - 2024

- Coursework: Probability, Linear Algebra, Programming for Data Science, Geospatial and Demographic Methods (QGIS).
- Recipient of FM (Factory Mutual) Global Scholarship.

HWA CHONG INTERNATIONAL SCHOOL

International Baccalaureate Diploma (40/45 Points)

Singapore

2016 - 2017

HL: Math, Physics, History

SL: English Language and Literature, Chemistry, Chinese.

Extended Essay/Theory of Knowledge (A/B)

EXPERIENCE

YALE-NUS COLLEGE

Research Assistant (Environmental Studies)

Singapore

May 2021 - July 2021

- Worked under Assoc. Professor Michiel van Breugel to perform exploratory data analysis on mangrove tree data collected from Pulau Ubin.
- Aimed to test if ground elevation and species abundance affected mangrove diversity in research plots.
- Analysed mangrove forest dataset of 5000+ plants planted on land previously used for shrimp farming.
- Constructed visualisations in RStudio using: 'ggplot2', 'dplyr', 'vegan'.

PROJECTS

Migrant Worker Bus Travel Data

Oct – Nov 2022

- Created 8 maps to analyse bus travel data around 10 migrant worker dorms in QGIS.
- Filtered through 15 million data points of origin-destination bus travel data obtained from Land Transport Authority (LTA).

Covid-19 Policy Comparison

Sep – Nov 2022

- Visualised policies of governments during the highest peak of Covid fatalities per country.
- Used dynamic time warping algorithm to cluster 229 countries into 8 clusters based on Covid fatality metric.
- Found similarities between the Covid fatality peaks and mitigation policies in UK and Indonesia.

Stroke Prediction Model

Sep – Nov 2021

- Used scikit-learn models to predict stroke diagnosis based on patient's BMI, glucose levels etc.
- Applied SMOTE to balance and imbalanced dataset comprising of stroke/non-stroke patients.
- Applied K-nearest neighbor model that correctly identified 100% of stroke cases, 96% of non-stroke cases.

ADDITIONAL INFORMATION

- Languages: English (native), Cantonese (conversational), Singapore Sign Language (beginner)
- Programming Languages: Python, R.
- Software: QGIS.