# Kevin Pek Yue Ting

Singapore Citizen | +65 98261671 | kevinpekyt@gmail.com | kevin_pyt@u.nus.edu | github.com/kevin-pek | kevinpek.com

## PROFESSIONAL EXPERIENCE

**NUS IORA/NCS Singapore – Research Assistant** / *Singapore*　　　　　　　　　　　Jun 2023 – Dec 2023
- Exploratory data analysis and outlier detection on time series data in data centers using Python (pandas, matplotlib, plotly).
- Created temperature simulation of data center based on sensor data using finite volume method and numerical solvers in Python.

**Global Innovation Catalyst – Data Analyst Intern** / *Palo Alto, CA*　　　　　　　　Jul 2023 – Aug 2023
- Researched and evaluated various sources of startup company data, and created visualisations using Python (pandas, plotly).

**NUS IORA/Singapore Airlines – Research Assistant** / *Singapore*　　　　　　　　　Aug 2022 – May 2023
- Built and deployed a machine learning powered quiz platform with dashboards, file upload, user management features and JWT user authentication. Developed using React (Material UI) and Express, utilising MySQL and AWS S3 for storage.
- Implemented multi-arm bandit algorithms; epsilon greedy and linear upper confidence bound for question recommendation system within the quiz platform, which was then deployed as a REST API using the FastAPI framework.
- Created a recommendation model interface, enabling easy deployment of various algorithms created by researchers, and allowing concurrent sessions within the question recommender API to use different models for prediction.
- Containerised and deployed the platform's applications along with a Nginx webserver on an AWS EC2 instance using Docker.

**Idemia – Full Stack Developer Intern** / *Singapore*　　　　　　　　　　　　　　　May 2022 – Aug 2022
- Developed proof-of-concept for an orchestrator application in Java using the Apache Camel framework and Spring Boot.
- Wrote integration tests for various applications using Testcontainers and Junit5, load testing using JMeter.
- Optimised inefficient data fetching code in various applications, resulting in 10x reduction in network bandwidth usage.

**NUS IORA – Student Researcher** / *Singapore*　　　　　　　　　　　　　　　　　Apr 2022 – May 2022
- Refactored Python scripts implementing Linear UCB algorithm into a webapp and REST API using Flask and deployed it on Heroku.

**NUS Dept. Biomed Eng. – Game Developer** / *Singapore*　　　　　　　　　　　　Feb 2022 – May 2022
- Developed a game in Unity to assist staff with assessing the cognitive capabilities of people suffering from Alzheimer's Disease.

**DSTA – Modelling and Simulations Intern** / *Singapore*　　　　　　　　　　　　　Mar 2021 – Jun 2021
- Built scalable, high fidelity simulation environments and synthetic data generator in Unity for reinforcement learning projects.
- Utilised Unity's ML Agents package to train neural networks to be used alongside 3D pathfinding algorithm for multi-stage AI system.

## EDUCATION & AWARDS

**National University of Singapore, B.Sc Data Science and Analytics, 2nd Major Computer Science**　Aug 2021 – May 2025 (Expected)
- Expected First Class Honors. Awarded Dean's List for AY2022/23 Semester 1.
- **Courses:** Data Structures & Algorithms, Object Oriented Programming, Computer Architecture, Convex Optimisation, Regression Analysis, Numerical Analysis, Data Visualisation.

**Stanford University, International Honors Program**　　　　　　　　　　　　　　Jun 2023 – Aug 2023
- Awarded the SG-US Summer Exchange Scholarship.
- **Courses:** CS161 Design and Analysis of Algorithms, CS221 Artificial Intelligence: Principles and Techniques

## LEADERSHIP & COMMUNITY SERVICE

**NUS Google Developer Student Club – Head of Technology**　　　　　　　　　　　Jun 2023 – Current
- Currently leading a team of developers to create a platform for collaboration and resource sharing between small non-profits.

**NUS Google Developer Student Club – Software Engineer**　　　　　　　　　　　　Aug 2022 – May 2023
- Full stack development for website revamp and new internal CMS for a non-profit. Tech: Express, MongoDB, NextJs (React, MUI).
- Setup CICD for automated testing and deployment using GCP Cloud Run, and wrote unit and integration tests for backend server.

**NUS Student Union IT Committee, CharITeach – Volunteer Tutor**　　　　　　　　　　　　　Mar 2022
- Taught underprivileged kids basic programming skills by teaching them to make a game using the Scratch programming language.

**42nd NUS Rovers Adventure Club – Honorary General Secretary**　　　　　　　　　Oct 2021 – Oct 2022
- Managed database of 2000+ members and planned and led 8 local and overseas trekking and cycling events with 50+ participants.

**42nd NUS Science Club Alumni Relations Committee – Marketing Executive**　　　　Oct 2021 – Oct 2022
- Reached out to various companies for sponsorships for club events and helped organise various club events for school alumni.

## SKILLS & INTERESTS

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| **Programming Languages:** | Python, R, Typescript, Javascript, Java, C, C# |
| **Web Frameworks/Libraries:** | React, Express, NextJs, FastAPI, Flask, Spring Boot |
| **Data Analysis Libraries:** | **Python:** pandas, numpy, plotly, seaborn, matplotlib, scikit-learn. **R:** dplyr, ggplot (Tidyverse) |
| **Others:** | Git, Docker, Unity |
| **Interests:** | Entrepreneurship, Board Games, Badminton |

## PROJECTS

**Document Search**　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　May 2023
- Gradio interface to upload and search across multiple PDF files for based on semantic similarity. Written in Python using Langchain and Sentence Transformers, using pretrained models for sentence embeddings and similarity search.

**Monday.com Telegram Bot Assistant App**　　　　　　　　　　　　　　　　　　　　Jun 2023
- Monday.com extension app that uses OpenAI and Telegram Bot APIs to generate messages and schedule when to publish them.

**N-Body Simulation**　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　Jul 2021
- Simple N-Body simulation developed in Unity with mouse controls. Used compute shaders to increase performance of simulation.