Kevin Pek Yue Ting

Singapore Citizen | +65 98261671 | 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 Python (pandas, matplotlib, plotly) in Azure Compute Instance.
- Created temperature simulation for data center hall based on sensor data using numerical simulations written in Python.
- Optimised and deployed pytorch forecasting model for data center power usage and sensor temperature readings using Azure ML.

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 (Full Stack Development) / *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 algorithm (epsilon greedy) and converted other algorithms for question recommendation system within the quiz platform, which was then packaged and deployed as a REST API using FastAPI.
- Created a user interface to manage recommendation models, enabling easy deployment of various algorithms created by researchers, and allowing concurrent sessions within the question recommender API to use different models for prediction.
- Deployed applications along with a Nginx webserver on AWS EC2 and on-premises using Docker and handled deployment issues.
- Produced OpenAPI specification for API services and produced technical documentation for handover.

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 mock Docker containers and Junit5, and 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*   May 2022 – Aug 2022
- Converted Python scripts implementing multi-arm bandit algorithm into a Flask webapp 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 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, OOP, Machine Learning, Operating Systems, Natural Language Processing.

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.

EXTRACURRICULAR ACTIVITIES

NUS Google Developer Student Club – Tech Lead   Jun 2023 – Jan 2023
- Led a team of 5 student developers to build a peer-to-peer sharing platform between non-profits.
- Provided guidance to the team and ensured adherence to coding best practices, as well as technical documentation.
- Setup CICD for automated testing and deployment. Troubleshooting for deployed services on Vercel and fly.io cloud environment.
- Contributed custom Testcontainer configuration to Open-Source repository. Tech: PostgreSQL, Express, NextJs, React, shadcn ui.

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

Programming Languages:	Python, Typescript, Java, R, C, C#
Web Development:	React, Express, NextJs, FastAPI, Flask, Spring Boot
Data Science Libraries:	**Python:** pandas, numpy, pytorch, langchain, scikit-learn. **R:** dplyr, ggplot (Tidyverse)
Cloud & Others:	Git, Docker, Linux, AWS, GCP, Azure ML, Unity

PROJECTS

PDFSearch Raycast Extension   Dec 2023 – Jan 2024
- Developed Open-Source extension for native MacOS App for search within collections of PDF documents using PDFKit and reranking search results using sentence similarity. Achieved more than 100 downloads within first week of launch.