YU TING TSENG

Hardware/ Software Engineer
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OBJECTIVE

I am an independent, resilient and responsible individual who always seeks to find creative solutions to intricate problems. I have had a breadth of exposure to software technologies from front-end web design to database management through both my master's degree from Imperial College London and the engineering role at a fast-growing startup company. My willingness to learn new things and my ability to pick things up quickly means that I could easily adapt to the stacks used at my future company. I am excited about embarking on a growth journey as a software developer where I can not only further my problem-solving skills but also bring positive impacts to a cause that I care about.

WORK EXPERIENCE

R&D Hardware Engineer — JUN 2022 – PRESENT
Blakbear / London

- IoT devices and firmware programming
  - Programmed an Arduino to collect Bluetooth data and advertise to GCP in C++ using the MQTT protocol.
  - Programmed an Arduino and designed a PCB that integrates digital and analogue readings from various gas sensors and sends data to the cloud via Bluetooth.
  - Set up data collection pipelines from IoT devices to GCP using services including IoT core, Pub/Sub and BigQuery.
- Google cloud platform (GCP) architecture
  - Interacted with the BigQuery database using SQL to monitor data collection daily and generated reports on LookerStudio.
  - Independently modified parts of the cloud infrastructure to accommodate a newly implemented data collection method, by changing both scheduled queries and table schemas.
- Experiment configuration web app (HTML/ CSS/ Javascript)
  - Built a web app in Node.js to configure internal and external experiments, which involved creating and modifying documents in the Firestore database.
  - Created a dynamic tracking page of current experiments recorded on Firestore, which allows the entries to be updated upon selection.
  - Implemented authentication processes handled by Firestore and Google OAuth, containerised the web app using Docker and hosted the web app on GCP.
- Experimental design and lab management
  - Designed and conducted >90% of in-house experiments to improve sensor qualities and support data analysis strategies.
  - Completed thorough documentation on each experiment to facilitate cross-departmental interactions with great attention to detail.
  - Carried out weekly data presentations with experimental results processed and illustrated using Python.

Chemical Analyst (Covid) — NOV 2020 – JUL 2021
Sumika chemical analysis serve Ltd / Hsinchu, Taiwan

- Conducted sample analysis using ICP-MS.
- Compiled analytical data and issued reports in Japanese, Mandarin and English.

Part-time English Tutor (Covid) — SEP 2020 – SEP 2021
Self-employed / Hsinchu, Taiwan

- Customised English lessons to meet the unique needs of individual Taiwanese students.
- Leveraged my language learning background to deliver engaging and innovative instruction.

EDUCATION

Imperial College London — MAY 2022
MSc Bioinformatics (Distinction) — London, UK

Key modules:

- Mathematics and statistics - calculus, algebra, non-linear systems, machine learning, statistical inference and Bayesian statistics
- Computing - Python, R, UNIX/Linux command line, relational databases and SQL
- Bioinformatics 1&2 - population genetics, networks/clustering/systems biology and deep learning, proteomics, genomics, GWAS, transcriptomics

Projects:

- Database project
  A database tool for inference of the impact of missense variants on structure, function and protein-protein interactions. The end product of the group project was a bioinformatics web tool built within Django. My roles were the design of the MySQL database architecture and queries to support front-end functionalities.
- Machine learning project
  Critical evaluations of pipelines for the discovery of natural products with antimicrobial properties. The project involves understanding and validating 3 bioinformatics neural networks by recreating the results. The results of the project were presented as a web page using HTML5 and interactive graphs created with Javascript.
- Data analysis project
  Characterisation of good prognosis neuroblastoma in terms of cell type using signature genes. The analysis was carried out on publicly available single-cell data and was processed and analysed using R.

University of Warwick — MAY 2020
BSc Biochemistry (First class honours) — Coventry, UK

- Intercalated year abroad in Japan at Nagoya University

Blackpool Sixth Form College — JUN 2016
Mathematics (A*), Chemistry (A), Biology (A) — Blackpool, UK

SKILLS

- Python, JavaScript, C++, SQL (MySQL, BigQuery), CSS/HTML, R
- Linux/ Unix, Bash, Git
- Fluent in English, Mandarin, German and Japanese

HOBBIES

I am a language enthusiast. I learned 2 languages as an adult and am currently a beginner at learning French. On a typical workday evening, I enjoy swimming at my local gym and cooking quick but nutritious meals for dinner. I also like playing board games, especially complex games with variable objectives.