Sydney Tzu-Jung Fang

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SKILLS

- Python, Java, C++, C# Swift, AWS, Tensorflow, PyTorch, Machine Learning, Artificial intelligence, SCRUM, Kanban, SQL, HTML, PHP, CSS, Javascript, Git, Angular, NLP, VBA, React, Blender, Unity, Django, REST, Docker, NodeJS
- Linguistic: English, Mandarin, Cantonese, Japanese, Taiwanese, French (limited)

EDUCATION

The University of British Columbia - Double major in **Computer Science** and **Bio-Chemistry** June 2023

RELEVANT WORK EXPERIENCE

Data Analyst | The University of British Columbia - Single molecule Mechanobiology lab Jun 2022 ~ Sep 2022

- **MATLAB** to write scripts and optimize and clean up cell large datasets collected by other biologists and chemists in the lab - **Fiji ImageJ, Python, PyUnit**
- Initiated and lead the migration of codes and database to GitHub - **Git**
- Created an interactive website for the 2022 OKBC conference for user registration - **HTML, JS, CSS, Angular, AWS, NET framework, Agile testing, Jira**

Software Research Assistant | The University of British Columbia Sep 2019 ~ Apr 2020

- Mapped the blueprint of the Okanagan Waterway into a interactive 3D environment using **Blender** & **Unity**
- 3D modelled and designed real-time objects including but not limited to animals, nature and architectural structures on Blender and Unity - **C#**
- Automated scenes, sequence assembly and repetitive tasks - **Python**

RECENT TECHNICAL PROJECTS

Natural Language Processing Researcher | The University of British Columbia Jul 2022 ~ Present

- Building a **machine learning** model that tracks and translates human body, hand and face movement gestures into different linguistics using **Tensorflow**, **python** and etc.
- Researching and building a **deep neural network** related to translating minority dialects and body gestures with integrated emotions from limited datasets - **Docker**

Software Engineer Team Lead | Canadian Space Agency, SEDS - CAN-SBX Oct 2021 ~ Present

https://www.asc-csa.gc.ca/eng/sciences/balloons/campaign-2022.asp

- Winner of the CAN-SBX competition for 2 consecutive years, worked closely with the Canadian Space Agency
- Proposed a solution to reduce the stratospheric radiation effects on single event upsets through hardware and software
- Came up with a solution program that detects and reverses bit flips, and fills planar and SATA SSDs with 0 or 1 - **Java**
- Wrote a program that generates graphical data for statistical analysis - **Python**
- Created a website to document the process and information about our team - **PHP, HTML, CSS, JS, AWS - EC2**
- Planned software testing using **agile** methods to ensure payload would withstand the hostile stratospheric environment

Machine learning engineer - dialogue chatbot Mar 2023

- Implemented a chatbot model on my personal website using Keras **sequential model** and **NLTK**
- Managed the whole implementation process by myself from UI design, to data collection and processing (using NLP techniques), to building the neural networks and training the model - **python, Keras, tensorflow, json, yml**
- Built my interactive website which includes animations and a trained chatbot - **HTML, CSS, SCSS, JS, Flask, Python, AWS EC2, Nginx, Unicorn, Ubuntu**

Software Engineer Team Lead | The University of British Columbia Sep 2022 ~ Present

- Delivered a web platform that reduces food waste and generates government related documents for a client - **NodeJS, Python, HTML, JS, Docker, React, CSS, AxiosAPI, Git, SQL**
- Applied **SCRUM** and **AGILE** testing developing methods using **Jira** and **Figma**
- Resolved conflict between client and the university during an IP disagreement, and handled project transformation

Software Engineer - SWIFT App development November 2022

- Developed a colour matching game for children using **collisions** in **SwiftUI**
- Implemented **game life cycles** and used **agile** software methods
- Users can drag different circles of colour and match it to its corresponding colour, with the intentions of the product of familiarizing children with different colours

Software Engineer Team Lead| Competitive coding Hackathon 2022, BC Hacks Nov 25 ~ 27 2022

https://devpost.com/software/parcade

- Led a team of 3, built an interactive game where users can interact with on-screen items through physical movements
- Used opencv and mediapipe to map out and track human body and hand movements - **Python**
- Begin and finished the project from scratch within 48 hours - **HTML, CSS, JS, Angular**

Software Engineer - SWIFT App development July 2022

- Developed a timer in **SwiftUI** that integrated the pomodoro study technique
- Timer allows the users to set and cycle through different lengths of study and break time
- Designed the layout and UI in **Figma**

Software Engineer Team Lead| Competitive coding Hackathon 2020, BC Hacks Jan 18 ~ 19 2020

https://devpost.com/software/rumino

- Led a team of 3, built a motile robot that detects the dimensions of a room using an ultrasonic sensor - **Java, Arduino**
- Coded a database and an application that connects to the robot via bluetooth to display the data - **Python, MySQL**