Kayan Shih

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EDUCATION

Brown University   September 2023 – Expected May 2025
Master of Science in Computer Science   *Providence, RI*
- **Relevant Coursework**: Computer Networks, Computational Linguistics, Fundamentals of Computer Systems

New York University   September 2019 – May 2023
Bachelor of Arts in Computer Science   *GPA:3.7/4.0*   *New York, NY*
- **Relevant Coursework**: Operating System, Database, Computer System Organization, Machine Learning, Deep Learning, Responsible Data Science, Algorithm, Data Structure
- **Honor:** Dean's list 2019 & 2021

PROFESSIONAL EXPERIENCE

SlowMist   June – July 2023
Smart Contract Security Audit Intern   *Xiamen, China*
- Implemented custom smart contract logic for token creation with token issuance protocols, including ERC20, ERC1155, etc, maintained Ethereum-based infrastructure and smart contracts for DeFi products and NFT applications using **Solidity.**
- Employed **Agile** methodologies for iterative development and cross-functional collaboration.

Tencent   May – August 2021
Game Operation Intern   *Shenzhen, China*
- Implemented strategies to increase **66K** DAU in the game "Dragon Raja" by **3.5%** through a successful promotion event, which prevented user loss caused by the new season of the top popular game "Honor of Kings."

PROJECT EXPERIENCE

Internet Radio Station   September – December 2023
Brown University   *Providence, RI*
- Implemented an internet radio station with server and client for real-time data streaming data using **Go** with a concurrent server architecture to handle multiple client connections simultaneously.
- Implemented **TCP** and **UDP** protocol handling for data transmission; Implemented connection pooling and resource management techniques to efficiently utilize server resources.
- Utilized Go's **concurrency** primitives such as goroutines and channels to implement a scalable and efficient server-client communication model.

DNS Resolver   September – December 2023
Brown University   *Providence, RI*
- Implemented a DNS resolver in **Python** handling both recursive and iterative queries with caching mechanism.
- Integrated caching for most recent query domain names with LFU eviction policy, resulted in a reduction of the resolution time by 23%.

Fingertip Position Estimation of a Robot Hand   September – December 2022
New York University   *New York, NY*
- Implemented a **ResNet34-based** neural network to infer robot fingertip positions from RGB & Depth images using **PyTorch**; Reached **RMSE of 0.00759** for fingertip position estimation.
- Initialize the model with pre-trained weights on ImageNet dataset to bootstrap the learning process, utilize Adam optimizer and apply weight decay as regularization techniques to optimize model performance.
- Developed data loading pipelines using PyTorch **DataLoader**, optimizing batch size, and multiprocessing settings incorporating data augmentation and preprocessing with image cropping, color normalization and color jittering using OpenCV.

University Course Registration System   January – May 2021
New York University   *New York, NY*
- Designed a university course Registration System in **Java** with design patterns including Singleton, Composite, Decorator, Template method etc; Received a top 10% ranking among 80 students.
- Implemented for user interface admin and student users for course modifications and course registrations with event-handling techniques; Used **memorization** to optimize method calls.
- Enabled **multi-threading** for the course registration function and used **Thread Synchronization** for registering courses of threads; Processed unit testing with **Junit** at the end of the development process.

SOFTWARE AND LANGUAGE SKILLS

Programming Language: Python, Java, C, Go, MATLAB
Framework: Docker, MongoDB, Tableau, MySQL, PostgreSQL, Solidity