

# Hsuan-Yang Huang (Yang)

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## EDUCATION

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### Virginia Tech

Master of Engineering in Computer Science

- Software Development & Application Track

*Falls Church, USA*

*start from Sep. 2023*

### National Chiao Tung University (NCTU)

Bachelor of Science in Industrial Engineering and Management

*Completed 33 hours credits in Computer Science courses*

*Hsinchu, Taiwan*

*Sep. 2016 - Feb. 2022*

- CS related GPA: **3.75/4.3**
- Course: **Machine Learning, Data Structures, Object-Oriented Programming, Computer Organization, Database Management, Computer Networks, Operating Systems, Algorithms, Introduction to Computers and Programming, Simulation**

## EXPERIENCE

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### THINGNARIO

Backend / Big Data System Engineer

*Taipei, Taiwan*

*Jan. 2023 - now*

- Integrated **IoT sensors** with Python, including conducting thorough documentation review and comprehending the commercial significance of different value readings in various applications.
- Designed **RESTful API** in **Flask** to obtain solar energy data from domestic and foreign solar energy sites. Ensured data is obtained from over 1000 sites.
- Automated IoT sensors data integration and processed using **Pytest** to verify data accuracy, reducing process operation time by more than 25%.

### AppWorks School

Back-End Developer

*Taipei, Taiwan*

*Sep. 2022 - Jan. 2023*

- Collaborated with Front-End & iOS team building **cross-platform e-commerce** agile project with cache system using **Redis** and role-based access control (**RBAC**) within 5 weeks.
- Built typing practice website in **React & Node.js** with words recommendation system(fuzzy search, n-gram tokenizer) using **Elasticsearch**. Implemented multiplayer mode with **Socket.IO** to control users state.
- Deployed application with **Amazon Elastic Load Balancing** distributing traffic across instances with **Auto Scaling** for scalability and availability.
- Worked with Back-End team building **short URL** generation service with **Amazon Elastic Load Balancing, RDS, ElastiCache** with key generation service(KGS).
- Conducted research on **Nginx** Load Balancer Algorithm including smooth weighted round-robin, IP hash and least-connected.

## SKILLS

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### Environment & Framework

Linux, Docker, Nginx, Node.js, Flask, React, PM2

### Programming Language

Javascript(ES6), C/C++, Python

### Database

MySQL, PostgreSQL, Elasticsearch, Redis

### Cloud Service(AWS, Amazon)

EC2, RDS, S3, ElastiCache, CloudWatch, Elastic Load Balancing

### Version Control

Git, GitHub, GitLab

### Others

Tailwind, Bootstrap, Pytest, TapPay

**Languages:** Mandarin/Chinese (native), English (TOEFL 103/120)

## PROJECTS

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### Yoyomantype [link](#)/[github](#)

*Nov. 2022 - Dec. 2022*

Socket.IO/Elasticsearch/Node.js(Express)/PostgreSQL(timescaleDB)/Nginx/  
Docker/AWS/React/Tailwind

- Recommend words based on previous record with **fuzzy search** and **query-string** by **Elasticsearch**.
- Manage multiplayer rooms state with **Socket.IO** and **Node.js** for instant interaction.
- Containerized application with **docker** to enhancing development extensibility.
- Constructed **TimescaleDB** schema for time series data storage and query.
- Followed **MVC** framework to enhance develop manageability and maintainability.
- **React-based** typing website allowing users to improve typing speed and accuracy.
- Applied **React Router** for configuring routes to develop SPA.

### Process Scheduling Algorithm using parallel programming

*Dec. 2021 - Jan. 2022*

C/C++

- Enabled scheduling procedure to run in parallel by implementing multithread programing(Pthread).
- Prevented race condition when accessing shared variables by mutex lock and semaphore.
- Enhanced performance of procedure by 2.5 times.

### 2D Game Development Project

*Jan. 2021 - Jul. 2021*

C/SDL2

- Implemented 2D Game engine based on SDL2 (cross-platform software development library) to build an adapted version of Mario Game.
- Enabled players to create and control map by applying tilemap method to render map image, and Axis-Aligned Bounding Box method to detect collision.

### CAPTCHA Identification System

*Mar. 2019 - Jun. 2019*

Python(selenium, Keras)

- Developed an automatic system for recognizing digits images and logging in to websites, creating a zero effort process for collecting data from specific websites.
- Collaborated as a team to go through the process from design to implementation, and test twice a week.

## EXTRACURRICULAR EXPERIENCE

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### NCTU Optimization Master Group Lab

*Hsinchu, Taiwan*

#### Solving parallel machine scheduling problem in case of stockpiling

*Sep. 2018 - Jul. 2019*

- Collaborated with Global Wafers Company to solve factory scheduling problem by Cplex Optimizer.
- Got selected as 2019 student papers by Chinese Institute of Industrial Engineers.

### iOS & Android Study Group

*Jan. 2022 - Mar. 2022*

Swift

- Built an iOS Task Scheduler APP, assisting users to manage their daily workflow.
- Implemented database with core data, allowing users to get access to previous data.