YU-CHANG, SHIH 施佑璋

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Experience

Algorithm Engineer
May 2022 - August 2023

APOLLO MEDICAL OPTICS, LTD.
Taipei, Taiwan

- As a contact person for the clinical department, I assisted colleagues in avoiding tedious work by creating elegant solutions using C#.
- Used C++ to implement algorithms and to translate MATLAB code. In addition, we have published several papers related to these algorithms.
- While writing the specifications, I discovered illogical code in the image preprocessing procedure. To align the modification, I developed a method to adjust the parameters automatically inspired by machine learning.
- Managed a 3D dense segmentation project and achieved an accuracy of 80% by adopting the postprocessing rules I observed.

Backend Engineer
August 2021 - March 2022

FUTURE TECH
Taipei, Taiwan

- Used Lua to develop four games integrated into the backend server. Tasks : implemented game logic and computer AI reactions, connected the backend server to both the frontend and the website's backstage through RPC and API, computed game results and saved them in the database.
- Optimized the server, including balancing the usage of each database server. I provided two options to management : Round Robin and a new hash function which is designed for the inputs of our architecture. The latter increased player capacity by 20%.
- Utilized new technologies to activate and handle servers. Including, deploying Nginx servers in Docker to manage several of the same servers and connecting these servers with gRPC. Furthermore, I built an asynchronous database using Redis and MySQL.

Automated Testing Engineer
July 2020 - August 2021

FUTURE TECH
Taipei, Taiwan

- By importing my fully automated testing library (hyperlink) , multiple functions could be performed : detecting game flows and playing games automatically with OpenCV and PyAutoGUI, identifying information from the screen through object detection (hyperlink) , checking the logic of each game and comparing the data from the frontend and website's backstage, as well as generating test reports through HTML.
- Trained three partners by generating questionnaires and examples to accomplish specific tasks independently and to use my library. Often, served as a point man to enhance test coverage by identifying more information using Machine Learning.
- Represented automated testing as the main programmer on a business trip to Dubai : Confirmed our online website was updated successfully, discussed the priorities for each test case with the PM, listed the testing time of each game after introducing the automated testing.

Education

National Sun Yat-sen University
September 2015 - June 2019

B.S. IN COMPUTER SCIENCE AND ENGINEERING
Kaohsiung, Taiwan

- The Real-time System of Identifying Coin (hyperlink) is my capstone project. I programmed the Android app to take pictures and implemented the CNN model using the CapsNet structure to identify coins.
- I was interested in AI when I was in third grade. In the second semester, I got first place in the Machine Learning class, even better than graduate students. Not only the final exam and the total score for the semester but also the T-brain competition were top grades. From then on, I began my research on Machine Learning, especially Computer Vision within Deep Learning.

Honors & Awards

LeetCode
March 2025

USING PYTHON

- Contest Rating 1910, global rank 4.17%
- Biweekly Contest 151 Top 1.2% (371/31175)
- Weekly Contest 435 Top 6.4% (1762/27685)

Excellent Student Award
June 2019

NATIONAL SUN YAT-SEN UNIVERSITY

- Fourth grade first semester second place

CPE (Collegiate Programming Examination)
May 2017

USING C++

- Top 4.7% (97/2061)

Journal Papers

Activated melanocytes and senescent collagen fibers predict laser-treated melasma outcomes: An optical biopsy–based prospective cohort study *May 2025*

YEN-JEN WANG, CHANG-CHENG CHANG, YU-HUNG WU, LING HUANG, I-LING CHEN, YU-CHANG SHIH, HSING CHENG, JIA-WEI SHEN, MENG-EN LU, HSIU-MEI CHIANG, AND BOR-SHYH LIN

- https://doi.org/10.1016/j.pdpdt.2025.104648
- Photodiagnosis and Photodynamic Therapy, 2025 (not publish yet)

Photoaging features of melasma: An in vivo layered and quantitative analysis using computer-aided detection of cellular resolution full-field optical coherence tomography *March 2024*

CHANG-CHENG CHANG, YEN-JEN WANG, LING HUANG, I-LING CHEN, YU-CHANG SHIH, JIA-WEI SHEN, MENG-EN LU, HSIU-MEI CHIANG, BOR-SHYH LIN, AND YU-HUNG WU

- https://doi.org/10.1111/jdv.19971
- Journal of the European Academy of Dermatology and Venereology Volume38, Issue10 (October 2024) Pages e870-e873

Feasibility of High-Cellular-Resolution Full-Field, Artificial-Intelligence-Assisted, Real-Time Optical Coherence Tomography in the Evaluation of Vitiligo: A Prospective Longitudinal Follow-Up Study *February 2024*

LAI-YING LU, YI-TING CHEN, I-LING CHEN, YU-CHANG SHIH, ROSALIE TZU-LI LIU, YI-JING LAI, AND CHAU YEE NG

- https://doi.org/10.3390/bioengineering11020196
- Bioengineering 2024, 11(2), 196

Relevant Experience

Private Tutoring
August 2024 - July 2025

CULMINATED IN MENTORING THREE STUDENTS
Taipei, Taiwan

- Improved students' LeetCode Contest Rating from 1550 to 1750 by teaching them how to identify and apply suitable algorithms.
- Helped previously failing students in CS pass their courses by identifying and addressing their specific learning obstacles.

TALK Schools, San Francisco
January 2024 - June 2024

ADVANCED LEVEL
San Francisco, United States

- Consistently punctual and often the earliest to arrive, proactively utilized opportunities for one-on-one practice.

Skills

Expert	Python, Machine Learning, C#, C++, Java
Proficient	Docker, Go, Android Studio, HTML, JavaScript, MATLAB, Lua
Familiar	Shell Script, Unreal, Unity, R
Languages	Chinese, English