YuChang Shih

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EDUCATION

Northeastern University, San Jose, CA — September 2025 - May 2027
Master of Science in Artificial Intelligence

National Sun Yat-sen University, Kaohsiung, Taiwan — September 2015 - June 2019
Bachelor of Science in Computer Science and Engineering

- Capstone Project: Real-time System of Identifying Coin, an Android app that identifies coins from pictures through a CNN model using the CapsNet structure.
- Award: Excellent Student Award (Fourth grade, first semester, second place)

TECHNICAL SKILLS

Expert: Python (with Pytorch, TensorFlow, Keras), Machine Learning, C#, C++, Java
- Leetcode Contest Rating 1953, global rank top 3.19%

Proficient: Docker, Go, Android Studio, HTML, JavaScript, MATLAB, Lua
Familiar: Shell Script, Unreal, Unity, R
Languages: Chinese, English

EXPERIENCE

Apollo Medical Optics, Ltd., Taipei, Taiwan — May 2022 - August 2023
Algorithm Engineer

- Developed cell detection algorithms for OCT images in C++ and translated team's code from MATLAB to C++
- Optimized the code to balance accuracy and execution speed, resulting in several related research publications
- As a contact person for the clinical department, assisted colleagues in avoiding tedious work by creating elegant solutions using C#
- Discovered illogical code in the image preprocessing procedure while writing specifications, and created a program that automatically adjusts the parameters to align the modification
- Managed a 3D dense segmentation project and achieved an accuracy of 80% by adopting post-processing rules

Future Tech, Taipei, Taiwan
Backend Engineer — August 2021 - March 2022

- Used Lua to develop four games integrated into the backend server, by implementing game logic and computer AI reactions, connecting the backend server to both the frontend and the website's backstage through RPC and API, computing game results, and saving them in the database.
- Optimized the server by balancing the usage of each database server through a new hash function, increasing player capacity by 20%
- Implemented modern technologies to activate and handle servers, including deploying Nginx servers in Docker to manage multiple identical servers and connecting these servers with gRPC. Furthermore, built an asynchronous database using Redis and MySQL
- Improved server speed by deploying Nginx servers, connecting them to gRPC, and building an asynchronous database with Redis and MySQL.

Automated Testing Engineer — July 2020 - August 2021

- Developed a fully automated testing library to detect game flows and play games automatically with OpenCV and PyAutoGUI, identify screen information through object detection, check game logic to compare its data from the frontend to the website's backstage, and generate test reports in HTML.
- Enhanced test coverage by extracting information with Machine Learning and training three partners in Python through generating questionnaires and examples.
- Represented automated testing as the main programmer on a business trip to Dubai: confirmed that the online website was updated successfully, discussed the priorities for each test case with the project manager, and listed the testing time of each game after introducing automated testing

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

- Photodiagnosis and Photodynamic Therapy, Volume 54, August 2025
- https://doi.org/10.1016/j.pdpdt.2025.104648

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

- Journal of the European Academy of Dermatology and Venereology, Volume 38, Issue 10 (October 2024), Pages e870-e873
- https://doi.org/10.1111/jdv.19971

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

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