Samantha Shih

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Education

Massachusetts Institute of Technology, Cambridge, MA   June 2028
Candidate for Bachelor of Science in Computer Science and Engineering

Morrison Academy Taichung, Taichung, Taiwan   May 2024
GPA: 4.0/4.0 unweighted, 4.21/4.21 weighted; SAT: 1560/1600
Relevant Coursework: AP Calculus, AP Physics C, AP English Lit., Multivariable Calculus

Professional Experience

Medical Informatics Healthcare Lab, Chung Shan Medical University,   June 2021 – May 2024
Research Assistant to Professor Chiun-Li Chin
- Applied AI, TensorFlow, Keras, and machine learning model architectures to classify health problems including nail diseases or larynx problems; designed apps for stargazing and traffic accident prevention, created a safe bike
- Team won finalist in weather and transportation divisions of Taipei City Science and Technology Innovation Hackathon, and 19th National Electronic Design Creative Competition

Coding Minds Academy, California Polytechnic State University,   May 2023 – Dec. 2023
Intern
- Helped create system to teach younger students grade 1-5 to code in Python and Java
- Created hundreds of practice problems, drafted GPT prompts for hint generation, and recorded tutorial videos for explanations

Leadership & Service

App Development, "EM Touch" Emotion Identification Training App   August 2022 – January 2024
- Developed an app training users to identify emotions to facilitate communication between autistic and neurotypical individuals; collaborated with Physical Medicine and Rehabilitation Physician Junhua Zhou and neurodivergent individuals to improve and spread app; helped 40+ families with autistic children

High School Student Council, Treasurer   August 2022 – May 2024
- Facilitated supportive learning environment with Spirit Weeks, Wellness Weeks, celebration events; helped create & lead fundraisers; raised USD $12,250+

Executive Council Treasurer   August 2023 – May 2024
Junior Class Council Treasurer   August 2022 – May 2024

BigBall Earth Care & Humanist Association of Taiwan, Volunteer   August 2020 – May 2024
- Taught young Taiwanese children English; helped guide visually impaired individuals in games that help with movement; planned and led events for nursing homes

Publications & Presentations

Coauthor: Chen, I. M., Yeh, P. Y., Hsieh, Y. C., Chang, T. C., Shih, S., Shen, W. F., & Chin, C. L. (2023). 3D VOSNet: Segmentation of endoscopic images of the larynx with subsequent generation of indicators. *Heliyon*, *9*(3), e14242. https://doi.org/10.1016/j.heliyon.2023.e14242
- Assisted with experimentations; contributed reagents, materials, analysis tools, & data; labeled & segmented data

First author & presenter: Shih, S., Sun, T. Y., Lin, J. C., & Chin, C. L. (2022). The Classification of Beau's lines, Terry's nails, and Clubbing through AlexNet with Attention.
- Published & presented paper in 2022 International Conference on Fuzzy Theory and Its Applications
- Wrote, edited, published paper on nail disease classification using machine learning model AlexNet with attention mechanisms; led and collaborated with team to achieve high accuracy and precision

Awards & Accomplishments

State Representative, Pacific Areas, 2021-22 Voice of Democracy	May 2022
1st Place, NSDA Taiwan National Qualifier in Original Oratory	April 2022
United States of America Computing Olympiad Platinum Division	December 2021