DARREN SHIH
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EDUCATION

Johns Hopkins University 3.64 GPA, B.S in Computer Science & Cognitive Science, expected 2025

TECHNICAL SKILLS

Languages: Java, C, C++, C#, Python, Javascript, HTML
Software: Unity, Xcode, Figma, Pytorch, Tensorflow, Keras, Firebase, Node.js, MySQL, Jest
Relevant Coursework: Data Structures, Computer System Fundamentals, Intro Algorithms, Full-stack Javascript, Object Oriented Software Engineering, Machine Learning: Deep Learning, Human Language Technology (NLP, LLMs), Computer Vision (OpenCV)

INDUSTRY EXPERIENCE

AU Optronics | Software Engineer Intern   Jul 2023 - Aug 2023, Taichung, Taiwan
- Designed an intuitive and user-friendly interface for image annotation (bounding boxes, polygons), model training, and anomaly searching using **React**
- Developed no code drag-and-drop end-to-end platform by procedurally generating code, including image processing and **AI life-long learning** system for periodic retraining and model maintenance.

AU Optronics | Machine Learning Engineer Intern   Jul 2022 - Aug 2022, Taichung, Taiwan
- Developed an automatic system to detect **Rubbing Mura** in **TFT LCD** panels
- Used **XceptionV4** models and **Grad-CAM** to detect and locate mura on chip
- Created a working alarm system to **PLC control** and initiate stopping procedures if increased number of lowered grade chips and alert workers of which ejection heads need fixing

Brilltek | Backend Developer Intern   May 2022 - Jun 2022, Taichung, Taiwan
- Used **MySQL** and **Redis** for database management
- Developed content indexing software tools based on **ElasticSearch**

SOFTWARE PROJECTS

ARCADE Lab @ Johns Hopkins University   August 2023 - Present, Baltimore, MD
- Developing a realistic fluoroscopy image generator used for training an autonomous robotic system for spinal orthopedic surgery
- Developed a web-crawler for gathering and organizing CT scans and associated metadata used in the development of **DeepDRR**, a tool used for the generation of realistic radiographs and fluoroscopy images

HopHacks @ Johns Hopkins University   Sep 2022, Baltimore, MD
- Developed a mobile app utilizing word recognition algorithms to process photos of receipts
- Integrated **Firebase** for real-time database and authentication services
- Leveraged **AWS** for **OCR** processing, ensuring rapid and accurate text extraction from images

HopAI club @ Johns Hopkins University   Sep 2021 - May 2022, Baltimore, MD
- Employed custom DL architectures and generative models were developed to predict protein interaction with up to **95**% fidelity
- Devised a RL framework utilizing **OpenAI**'s **PPO** to enable autonomous navigation of agents

Chung Shan Medical University, Medical Informatics Healthcare Lab   Jun 2019 - Jul 2021, Taichung, Taiwan
- Implemented algorithms to detect skin cancer using hybrid **Mask-RCNN**
- Paper published in 2020 International Conference on Fuzzy Theory and Its Applications

National Yang Ming Chiao Tung University, Mobile and Ubiquitous Interaction Lab   Jun 2019 - Dec 2019, Hsinchu, Taiwan
- Used **Firebase** to build a crowdsourcing platform used by over **15k+** students that implemented campus traffic and inventory control, and tested it with **Jest** framework