

Claire (Shao-yu) Lin

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Education

Carnegie Mellon University - MS in Electrical and Computer Engineering - AI/ML Systems

Pittsburgh, PA

Courses: Deep Learning, Pattern Recognition, Distributed Systems, Computer Networks, Cloud Infrastructures

Aug 2022 - Dec 2023

San Jose State University - BS in Computer Science, Mathematics Minor

San Jose, CA

Courses: Machine Learning, Numerical Analysis, Engineering Statistics, Computer Architecture, Operating Systems

Aug 2016 - Aug 2021

Skills

Programming

Python, Java, C/C++, JavaScript, Scala, Matlab, R, SQL, Verilog

Tools/Frameworks

PyTorch, Tensorflow, OpenCV, Amazon Web Services, Docker, Kubernetes, CUDA, React.JS, Node.js, Git, Linux

Technical Skills

Object Detection, Depth Estimation, Medical Image Processing, Machine Learning, Model Deployment

Work Experience

Veytel

Pittsburgh, PA

MACHINE LEARNING ENGINEER (CONSULTANT) | IMAGING TEAM

Mar 2024 - Present

- Leveraged transfer learning to redesign medical image **object detection** workflow, resulting in a 34.5% improvement in model accuracy
- Created analysis framework for detection/segmentation algorithms, enabling quantitative comparison of various approaches
- Incorporated statistical method to refine segmentation borders by 13%, surpassing foundation model (Segment Anything) approaches

Adobe

San Jose, CA

SOFTWARE ENGINEER INTERN | ADOBE SIGN

May 2023 - Aug 2023

- Designed and built new eSign mobile application for offline package delivery, targeting user base of 12% of US population with spotty Internet
- Developed new offline authentication workflow leveraging Time-based OTP, securing deliveries for 2.3 million+ packages
- The mobile app is a progressive web application built using Adobe's React design system and supported by Sign microservices backend

Clario

San Mateo, CA (remote)

SOFTWARE ENGINEER | MEDICAL IMAGING TEAM

Aug 2020 - May 2022

- Productionized CNN-based medical **segmentation** models, automating radiologists' workflows and reducing labor time by 5,000+ hours
- Collaborated with scientists, conducted experiments, and implemented over 15 image analysis pipelines using Python and C++
- Implemented company's first brain white matter parcellation algorithm via image processing endpoints
- Integrated data pipelines to cloud-based computation resources utilizing **Docker**, **AWS Batch**, and **AWS EBS**
- Set up interactive process tracking dashboard for 30+ team members to monitor production status in Python **Flask** and **SQLAlchemy**

Research Experience

Carnegie Mellon University

Pittsburgh, PA

RESEARCH INTERN | ADVISOR: DR. MING XU

Dec 2023 - Present

- Conducted rigorous research in depth estimation, human mesh recovery, and prompting strategies for language-guided diffusion models
- Utilized **PIL**, **Scipy**, and **Numpy** in dataset processing. Processed 100K+ images in 20+ datasets
- Developed zero-shot and annotation-free monocular depth estimation model, surpassing SOTA models on generalization ability

Projects

Wild Fire Detection | SQLite, Scikit-learn, Anomaly Detection

Sep 2019 - Dec 2019

- Developed prediction model to forecast wildfire occurrence given 26 daily weather measurements, achieving accuracy of 0.89
- Trained SVM and neural network models. Processed 1.8 million entries in 5+ datasets [\[link\]](#)

What Do I Wear? | MySQL, Node.JS

Sep 2019 - Dec 2019

- Launched full-stack web application for 3000+ students to conveniently browse and pair clothing pieces
- Led team of 3 in designing relational database schema, analyzed user needs, and refined schema in BCNF [\[link\]](#)

Publications

Metric from Human: Zero-shot Monocular Metric Depth Estimation via Test-time Adaptation

NeurIPS 2024

Y ZHOU, H BIAN*, K CHEN*, L QU*, P JI, S LIN*, W YU, H LI, H CHEN, J SHEN, B RAJ, M XU

(submitted)

Automated MRI Face-Removal Pipeline to Anonymize Patient Scans for Clinical Trials

CTAD 2021

L KIDZINSKI, T CAJGFINGER, K THOMAS, L BRACOD, S LIN, C CONKLIN ET AL.

(2021). S83-S84.

- Performed large-scale clinical validation with 200+ subjects and verified the face-removal algorithm's 99% effectiveness [\[link\]](#)