

Seaqueue Cheng

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Education

Northeastern University , Portland, ME	Sept. 2024 – Present
Major in MSAI : Coursework: NLP, Machine Learning, Algorithms	
Northeastern University , Boston, MA	Sept. 2020 – May 2024
Major in BSCS : Coursework: OOD, Network and Distributed Systems, Computer Systems, Program Language, Web Dev	

Skills

Languages: Python, Java, Ruby, Racket, PostgreSQL, SQL alchemy, Lean, C, Assembly
Frameworks: Pytorch, OpenCV, Roboflow, NumPy, Pandas, Plotly, CVAT, React (HTML + CSS + JS/TS), Overleaf
Software: MacOS, GitHub & GitLab, VS Code, Jupyter Notebook, IntelliJ, PyCharm

Research Experience

Shadow Removal via Illuminant Spectral Direction (ISD) Estimation – NEU: Demo on GitHub	Sept. 2025 – Present
<ul style="list-style-type: none">Improved existing pixel wise ISD map estimation accuracy by assembling customized model with MambaVision backbone and FPN like dense regression head.Implemented customized training and evaluation pipeline that trained and confirmed model's performance.Build the visualization tool that removes the shadows in 16-bit linear images using ISD estimation.	
Automated Herring Fish Detection & Counting -- NEU & MIT Sea Grant: Demo on GitHub	Sept. 2024 – Present
<ul style="list-style-type: none">Preprocessed 162K fish images including filtering, annotation, augmentation, etc.Generated 5k synthetic fish images with SAM2 models on different backgrounds.Fine-tuned pre-trained Yolo11 on HPC to 90%+ accuracy on Herring vs non-Herring classification.Combined customized counting algorithm with Yolo11 tracking (Bot-Sort) to count the fishes in video inputs.	
Multispectral Image Segmentation of Blueberry Genotypes -- NEU & UMaine: Demo on GitHub	Feb. 2025 – May. 2025
<ul style="list-style-type: none">Preprocessed multi-spectral blueberry field images collected by MicaSense including alignment and annotation.Analyzed various model performance on MSI segmentation including SAM, U-NET, YOLO11, and PSFormer.	

Industry Experiences

AI Research and Development -- cPort Credit Union, Maine:	Aug. 2025 - Present
<ul style="list-style-type: none">Built a live translation product between English and 6 targeted languages using Azure AI speech.Fine-tuned AI speech models with cPort knowledge base and its targeted clients' needs.	
Full Stack Developer (Co-op) -- Global Nursing Talent Inc:	Aug. 2023 – Dec. 2023
<ul style="list-style-type: none">Developed the website in Ruby from scratch to production that helps to recruit nurses.	
Full Stack Developer (Co-op) -- Seminaut Inc, San Marcos, TX:	July 2022 – Dec. 2022
<ul style="list-style-type: none">Pushed the website to the next version; promoted to group leader of 9 teammates in Oct. 2022.	

Selected Projects

Transformer Suite (NLP + Vision) : Tasks with Transformer on GitHub	
<ul style="list-style-type: none">Build transformer-based NLP & ViT models from scratch for tasks including translation, summarization etc.	
OpenCV Image Processing :	
<ul style="list-style-type: none">Learned basic image processing techniques, noise reduction, geometric transformations, etc.Build Lenet-5 from scratch trained with MNIST dataset; it can classify handwritten numbers.	