

Seaqueue Cheng

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Education

Northeastern University , Portland, ME	Sept. 2024 – Present
Major in MSAI at Roux Institute: Relevant coursework: NLP, Machine Learning	
Northeastern University , Boston, MA	Sept. 2020 – May 2024
Major in Computer Science at Khoury College	

Skills

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

Research

Shadow removal using estimated ISD map (NEU):	Sept. 2025 – Present
<ul style="list-style-type: none">Improved the existing ISD estimation model by adding more training data and updating the model architecture.Built the pipeline to remove shadows in 16-bit linear images using ISD estimation.	
Herring Fish Detection and Counting (NEU & MIT Sea Grant):	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.	
Multi-Spectral Image Segmentation (NEU & UMaine):	Feb. 2025 – May. 2025
<ul style="list-style-type: none">Preprocessed self-collected multi-spectral drone images of blueberry fields including alignment and annotation.Adapted multi-spectral images to existing segmentation models, process 3 bands a time, combine results.	

Projects

Transformer models: Tasks with Transformer
<ul style="list-style-type: none">• Build transformer-based NLP & ViT models from scratch for tasks including translation, summarization etc.
OpenCV University Projects:
<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.

Experiences

cPort Credit Union, Maine	
AI Research and Development:	Aug. 2025 - Present
<ul style="list-style-type: none">Built a live translation product between English and 20+ other languages using Azure AI speech.Fine-tuned AI speech models with cPort knowledge base and its targeted clients needs.	
Global Nursing Talent Inc	
Full Stack developer, CO-OP:	Aug. 2023 – Dec. 2023
<ul style="list-style-type: none">Developed the website in Ruby from scratch to production that helps to recruit nurses.	
Seminaut Inc, San Marcos, TX	
Full Stack developer, CO-OP:	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.	