

Seaqueue Cheng

(207)318-7055 | Portland, ME | cheng.qian@northeastern.edu | [Personal Website](#) | [GitHub](#) | [LinkedIn](#)

Education

Northeastern University , Portland, ME	Sept. 2024 – May 2026 (expected)
MS in Artificial Intelligence : NLP, Machine Learning, Algorithms	
Northeastern University , Boston, MA	Sept. 2020 – May 2024
BS in Computer Science : OOD, Network and Distributed Systems, Computer Systems, Programming Language, Web Dev	

Skills

Languages: Python, Java, Ruby, JavaScript, TypeScript, HTML & CSS, Racket, PostgreSQL, MongoDB, Lean, C, Assembly
Frameworks: Pytorch, OpenCV, Roboflow, NumPy, Pandas, Plotly, CVAT, React, Overleaf
Software: MacOS, GitHub & GitLab, VS Code, Jupyter Notebook, IntelliJ, PyCharm

Research Experience

Shadow Removal via Illumination Spectral Direction(ISD) Estimation – NEU : Demo on GitHub	Sept. 2025 – Present
<ul style="list-style-type: none">Improved pixel-wise ISD map estimation accuracy by designing a customized MambaVision + FPN like dense-regression model, achieving >0.97 SSIM and ~1.6° angular error across 12 configurationsBuilt a modular PyTorch training and evaluation pipeline with benchmarks to validate model performance on augmented and un-augmented test sets.Built 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 Yolov11 on HPC to 90%+ accuracy on Herring vs non-Herring classification.Combined Yolov11 Bot-Sort tracking with customized counting algorithm to count the fish in video inputs.	
Multispectral Image (MSI) Segmentation of Blueberry Genotypes – NEU : 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 Foundry.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">Built a Ruby website from scratch to production, integrating PostgreSQL, AWS, and Bootstrap to deliver a bilingual (English/Spanish) recruitment platform for international markets in Mexico, Singapore, and Chile.Designed and implemented multi-login dashboards, progress tracking, and admin tools for candidate search, filtering, and access control, streamlining the company's hiring process.	
Full-stack Developer (Co-op) -- Seminaut Inc, San Marcos, TX :	July 2022 – Dec. 2022
<ul style="list-style-type: none">Upgraded the website with event listings, pagination, badge system, and advanced filtering, integrating user input with a SQLAlchemy database via API calls. Promoted to group leader of 9 teammates.	

Selected Projects

Transformer Suite (NLP + Vision): [Tasks with Transformer on GitHub](#)

- Built transformer-based NLP & ViT models from scratch for tasks including translation, summarization etc.

OpenCV Image Processing:

- Learned basic image processing techniques, noise reduction, geometric transformations, etc.
- Built a LeNet-5 model from scratch and trained it on the MNIST dataset to classify handwritten digits.