

# Seaqueue Cheng

(207)318-7055 | Portland, ME | [cheng.qian@northeastern.edu](mailto:cheng.qian@northeastern.edu) | [My Website and Work](#)

## 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, Lean, C, Assembly, SQL alchemy, PostgreSQL

Frameworks: Pytorch, OpenCV, NumPy, Pandas, Plotly, CVAT, Roboflow, Overleaf, React (HTML + CSS + JS/TS)

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

- 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

- 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

- 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

- 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

- 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

- 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](#)

- Build 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.
- Build Lenet-5 from scratch trained with MNIST dataset; it can classify handwritten numbers.