

# Ira Hysi

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## EDUCATION

### Northeastern University *May 2025*

Bachelor of Science in Chemical Engineering and Computer Science - *GPA: 3.48*

Leadership: Resident Assistant

## TECHNICAL SKILLS

**Machine Learning:** Python Packages (pytorch, sklearn, Keras, TensorFlow), MLOps Platform Weights and Biases

**Programming Languages:** Python, Javascript, C++/C#, MatLab

**3D Printing:** AutoCAD, Solidworks, Fusion360, Cura

**Cloud Computing:** AWS, Sagemaker

## CO-OP EXPERIENCE

### Computer Vision Co-op\*

Jan – Sep 2023

*Roche/Genentech Inc*

*Hiring Manager: Informatics Analyst Evan Liu*

- **Research:** Using Self-Supervised Learning to gain biological insight on large amounts of unlabeled preclinical and clinical oncological image data
- Reduced data required for training by >80% via development and implementation of novel feature selection method in data pre-processing.
- Strengthened robustness in SwAV data pre-processing by introducing 10+ image augmentations and normalizations.
- Achieved ~90% accuracy on self-supervised classification of Lymph Nodes via unique classification models

## ACADEMIC RESEARCH

### Pharmaceutical Sciences Research Assistant\*

Sep 2021—Current

*Northeastern University*

*Pharmaceutical Science Dept. Chair: Dr. Mansoor Amiji*

- **Research:** Development of a hydrogel cap that serves as a tumor model to study multi-drug resistance
- Synthesized polymer capable of depriving cancer cells of oxygen and increasing mitochondrial footprint by >200%
- Conducted hydrogel characterization studies to understand hydrogel swelling, stiffness, elasticity, and crosslinking density

### Chemical Engineering Education Research Assistant\*

Sep 2020—Current

*Northeastern University*

*Chemical Engineering Dept. Chair: Dr. Luke Landherr*

- **Research:** Development of visual education tools that promote student engagement and interest in chemical engineering
- Developed comic on chemical engineering opportunities seen by over 150,000 students, professors, and industrial experts on LinkedIn
- Increased student comprehension in chemical engineering opportunities by 68%

## AWARDS

### 1<sup>st</sup> Place American Institute of Chemical Engineering Student Poster Competition

2023

Poster Title: "Using Educational Comics to Promote Student Interest in the Breadth and Depth of Chemical Engineering"

### 2<sup>nd</sup> Place Northeastern University Chemical Engineering Undergraduate Research Showcase

2023

Poster Title: "Mitochondrial Network Analysis of Multi-Drug Resistant Tumor Cells Integrated in 3D Hydrogel Matrices"

### 1<sup>st</sup> Place Northeastern University Chemical Engineering Undergraduate Research Showcase

2022

Poster Title: "The Use of Comics to Educate K-12 Students on Voltaic Cells"

\*see LinkedIn for associated publications and presentations!