

# YANG HU

[yang-i-hu.github.io](https://yang-i-hu.github.io) ◇ +1-805-637-9661 ◇ [yang.h@nyu.edu](mailto:yang.h@nyu.edu) ◇ Brooklyn, NY

## EDUCATION

### New York University

Master of Science, Computer Science

Sep. 2024 - May 2026

### University of California, Santa Barbara

Bachelor of Science, Mathematics/Statistics and Data Science

Sep. 2020 - Mar. 2024

Major GPA: 3.75, CS GPA: 3.94

## SKILLS

### Languages

Fluent with C++, Python, R; Proficient with SQL; Experienced with HTML/CSS, HUGO

### Frameworks

PyTorch, TensorFlow, OpenCV, Scikit-Learn, Langchain, Ollama, Faiss, CUDA, Spark

### Tools

Google Cloud Platform, AWS, Redis, Git, SVN, Shell, LaTeX

## EXPERIENCE

### R&D Software Engineering Intern

Unity

May 2024 - Aug. 2024

*Shanghai, China*

- Scaled the RAG database for Unity's AI assistant with a workflow that systematically gathers inputs from various Unity forums and an LLM pipeline that enhances data quality.
- Built MuseBench, a system integrating a finetuned LLM-as-a-judge in conjunction with a benchmark dataset for assessing the AI agents, resulting in a 95% reduction in assessment time while minimizing human labor.
- Developed a pipeline with a locally deployed LLM to extract the key error messages from Unity Cloud Build log files that typically exceed 100k lines.

### Machine Learning Undergraduate Researcher

The WAVES Lab, University of California, Santa Barbara

Jun. 2023 - Mar. 2024

*Santa Barbara, CA*

- Deployed deep learning models for image segmentation on large-scale satellite imagery.
- Proposed a computationally efficient model to address segmentation challenges in environmental remote sensing.
- Awarded the Schmidt Family Foundation Research Mentorship Award.

### Computer Vision Lab Research Assistant

School of Data Science & Engineering, East China Normal University

Jun. 2022 - May 2023

*Shanghai, China (Remote)*

- Cleaned and customized various computer vision datasets with OpenCV and Scikit-Image.
- Fine-tuned various CNN/transformer models for Image Super-Resolution using GPU-accelerated computing.

## PROJECTS

### Information Retrieval System and Retrieval-Augmented Generation

Sep. 2024 - Dec. 2024

- Built a ground-up search engine system on the MSMACRO dataset using an inverted index optimized with block compression and a Document-at-a-Time query processor employing BM25 ranking.
- Reconstructed the dataset with an HNSW vector database using Faiss to improve retrieval performance.
- Investigated the effectiveness of multiple reordering strategies in mitigating the "Lost in the Middle" biases in RAG pipelines through large-scale key-value retrieval experiments.

### Semantic Segmentation by Pixel-level Time Series Classification

Jan. 2023 - Mar. 2024

- Implemented various pixel-level time series classification models utilizing satellite data from Google Earth Engine.
- Evaluated the transferability and adaptability of the trained model across various locations and timeframes.

### Few-shot Instance Segmentation for Remote Sensing

Jun. 2023 - Dec. 2023

- Developed a novel Strategy named STC leveraging the Segment Anything Model and Vision Transformer for instance image segmentation in remote sensing, reducing manual labeling and training costs by 70%.

## PUBLICATIONS

- [1] Zhijian Wu, Jun Li, **Yang Hu**, Dingjiang Huang. "[Compacter: A Lightweight Transformer for Image Restoration](#)". ACM Multimedia, 2024.
- [2] **Yang Hu**, Kelly Caylor, Anna Boser. "[Segment-then-Classify: Few-shot instance segmentation for environmental remote sensing](#)". NeurIPS Workshop on Tackling Climate Change with Machine Learning, 2023.