

# Huy Anh Nguyen

Ph.D. Student in Computer Science

Stony Brook, New York, U.S. | (929) 626-3815

[huyanh995@gmail.com](mailto:huyanh995@gmail.com)

[linkedin.com/in/huyanh995](https://linkedin.com/in/huyanh995)

[github.com/huyanh995](https://github.com/huyanh995)

## EDUCATION

---

**Stony Brook University**, New York, U.S.

*Ph.D. in Computer Science*

8/2023 - Present

- Member of **Computer Vision Lab**

*M.Sc. in Computer Science (Data Science Engineering Concentration)*

2/2021 - 8/2023

- CGPA: 3.80/4.0
- Thesis: Hand-held Object Segmentation and Tracking
- Advisor (M.Sc. and Ph.D.): [Associate Prof. Minh Hoai Nguyen](#)

**Hanoi University of Science and Technology**, Hanoi, Vietnam

8/2013 - 8/2018

*B.Eng. with Honors in Mathematics and Informatics (5-year program)*

- CGPA: 3.24/4.0 | Ranking 9/47 (Department)
- Thesis: New classes of operators and De Morgan triples in Picture Fuzzy Set
- Advisor: [Prof. Dr. Sc. Bui Cong Cuong](#)

## RESEARCH INTERESTS

---

**Computer Vision** Video Object/Instance Segmentation (VOS/VIS), Hand-Object Detection, Open Vocabulary Segmentation, Extended Reality (AR/VR/MR)

**Machine Learning** Representation Learning, Self-Supervised Learning

## RESEARCH EXPERIENCES

---

**Computer Vision Lab - Stony Brook University**, New York, U.S.

8/2023 - Present

- Hand-held Object Identification, Segmentation, and Tracking: Developed algorithms and datasets for identifying objects held by hands, segmenting, and tracking them across videos of varying lengths.

**Adaptive and Interactive AI-AR Task Assistance | Funded by DARPA**, New York, U.S.

6/2022 - 11/2023

- Developed Unity and ROS plugins for data streaming from HoloLens 2, with a rosipy client for data retrieval, achieving 12 fps for RGB and 5 fps for Depth streams with 200-400ms latency. The system feeds data into action, hand, and active object recognition modules for interactive applications.
- Developed hand-object segmentation, tracking and distance estimation models using synchronized RGB and Depth frames.

**Visual Attention: Toward an Attentional Toolkit | Funded by NFS**, New York, U.S.

1/2022 - 6/2022

- Developed a multi-device synchronized data collection system integrating a webcam, screen recording, and eye-gaze video from a GP3 tracker, achieving sub-120ms latency across all streams for accurate gaze-action alignment in cognitive science research.
- Read and experimented hand-detection techniques on egocentric video datasets.

**Fuzzy Logic Research Group**, Hanoi, Vietnam

1/2018 - 9/2018

- Conducted literature review and proved De Morgan triples from supervisor's papers, leading to the construction of new classes of picture fuzzy negation and triples.
- Presented findings at [National Mathematical Conference \(2018\)](#).

## PUBLICATION & PRESENTATION

---

[1] Supreeth Narasimhaswamy, **Huy Anh Nguyen**, Lihan Huang, Minh Hoai, "*HOIST-Former: Hand-held Objects Identification, Segmentation, and Tracking in the Wild*", IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2024

[2] Nguyen Thanh Binh, **Huy Anh Nguyen**, Pham Ngoc Linh, Nguyen Linh Giang, Tran Ngoc Thang, "*Attentive RNN for HS Code Hierarchy Classification on Vietnamese Goods Declaration*", International Conference on Intelligent System and Network (ICISN), 2021 ([Springer Paper](#)).

[3] **Nguyen Huy Anh**, Roan Thi Ngan, Bui Cong Cuong, "Some new classes of Picture Fuzzy negation and De Morgan triples, 9th Vietnam Mathematical Congress", Oral presentation in Discrete mathematics section, Nha Trang, Vietnam, 2018.

## WORK EXPERIENCES

---

**Computer Vision Engineer Intern | PIXTA Inc**, Hanoi, Vietnam 6/2021 - 8/2021

*Japanese Image Captioning*

- Researched and developed models to generate captions in Japanese from stock images.
- Developed a model (BertCap with ResNeST backbone) which was later chosen to integrate into production with less than **0.65s** per image inference time using ONNX.

**Machine Learning Engineer | CMC Institute of Science and Technology**, Hanoi, Vietnam 6/2018 - 5/2019

*Harmonized System Code Classification*

12/2019 - 5/2020

- Collaborated with Customs Department experts to form the problem, process over 2TB of data, and create datasets emphasizing high-risk HTS Codes.
- Developed a hierarchical classifier to predict HS Codes with 68.9% accuracy on full codes and 95% on chapter/heading, with its application aiding in fraudulent activity identification, resulting in a publication in ICISN 2021.

**Research Consultant | WorldQuant LLC**, Hanoi, Vietnam 5/2019 - 9/2019

- Researched and developed algorithmic models, referred to as 'alphas,' to predict stock market movements, utilizing 25 datasets.
- Gold medal in WorldQuant Challenge (global - 2018)

## TEACHING EXPERIENCES

---

### Teaching Assistant

- CSE353 Machine Learning (Fall 2021)
- CSE519 Data Science Fundamentals (Fall 2023)

## SKILLS

---

### Languages

Python, SQL, C++, C#, Java

### Tools/ Frameworks

PyTorch, Numpy, Pandas, TensorFlow/Keras, Scikit-learn, Git, ROS, FreeFEM  
Linux, Hadoop/Spark, FastAPI, ONNX, Docker