

Chuong Huynh

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Education

University of Maryland, College Park

Ph.D. in Computer Science - GPA: 3.88/4.0

MD, U.S.A.

2021 – 2025

University of Science – Vietnam National University

Bachelor of Science in Honors Program – Information Technology

Vietnam

2014 – 2018

Industrial Experience

Pinterst Inc. – Machine Learning Engineer II

Building visual understanding features at Advance Technology Group (ATG)

WA, U.S.A

01/2026 - recent

VinAI Research - AI Research Engineer

Lane Detection for Autonomous Driving: (Mentor: Prof. Khoa Luu): Integrate segmentation to reduce false detection in extreme cases.

Smart Data Annotation Toolkit (Mentor: Dr. Thanh Tran): Improve memory/time/accuracy of Segmentation Models with noisy in-house data.

Vehicle Counting and Tracking (Mentor: Prof. Minh Hoai): Detected and tracked various vehicles from CCTV footage to analyze urban traffic flow on Vietnam streets.

Vietnam

02/2021 – 07/2021

Publications and Patent

VeriGraph: Scene Graphs for Execution Verifiable Robot Planning

Daniel Ekpo, Mara Levy, Saksham Suri, Chuong Huynh, Abhinav Shrivastava

ICRA 2026

CoLLM: A Large Language Model for Composed Image Retrieval

Chuong Huynh, Jinyu Yang, Ashish Tawari, Mubarak Shah, Son Tran, Raffay Hamid, Trishul Chilimbi, Abhinav Shrivastava

CVPR 2025

Composing Object Relations and Attributes for Image-Text Matching

Khoi Pham, Chuong Huynh, Ser-Nam Lim, Abhinav Shrivastava

CVPR 2024

MaGgle: Masked Guided Gradual Human Instance Matting

Chuong Huynh, Seoung Wug Oh, Abhinav Shrivastava, Joon-Young Lee

CVPR 2024

SimpSON: Simplifying Photo Cleanup With Single-Click Distracting Object Segmentation

Chuong Huynh, Yuqian Zhou, Zhe Lin, Connelly Barnes, Eli Shechtman, Sohrab Amirghodsi, Abhinav Shrivastava

CVPR 2023

Progressive Semantic Segmentation

Chuong Huynh, Anh Tran, Khoa Luu, Minh Hoai

CVPR 2021

Multi-scale Segmentation System

Hung Bui, Hoai Nguyen, Khoa Luu, Anh Tuan Tran, Chuong Huynh

US Patent App

Machine-learning Models for Distractor Segmentation with Reduced User Interactions

Yuqian Zhou, Chuong Huynh, Connelly Barnes, Elya Shechtman, Sohrab Amirghodsi, Zhe Lin

US Patent App

Repeated Distractor Detection for Digital Images

Yuqian Zhou, Zhe Lin, Sohrab Amirghodsi, Elya Schechtman, Connelly Barnes, Chuong Huynh

US Patent App

Research Experience

Perception & Intelligence Lab, UMD - Advisor: Prof. Abhinav Shrivastava

MD, U.S.A.

Image-Text Matching: Designed a Textual Scene Graph Embedding to improve alignment between images and richly attributed text (\uparrow 4-8 RSUM) (CVPR'24).

04/2022 –
12/2025

Scene Graph for Robotics: Parsed scene to scene graph for robot perception and planning.

Cell Counting: Built a two stage approach for cell counting in pathological images.

Multimodal Retrieval: Developed a universal system for any-to-any multimodal retrieval.

Samsung Research America (Vision Intelligence) - Research Intern

CA, U.S.A.

Hierarchical Image-Text Representation Learning (Mentor: Dr. Hossein Sourj, Dr. Abhinav Kumar, Dr. Vitali Petsiuk, Dr. Deen Dayal Mohan): Improve the hierarchical representation alignment between image and text information (under submission).

05/2025 –
08/2025

Amazon.com (Rufus MM) - Applied Scientist Intern

CA, U.S.A.

Composed Image Retrieval with LLM (Mentor: Dr. Jinyu Yang, Dr. Son Tran, Prof. Mubarak Shah): Developed a strong baseline using a novel self-supervised training method to extend LLM retrieval capabilities (1 CVPR'25).

05/2024 –
12/2024

Adobe Inc. - Research Intern

Remote, U.S.A.

Interactive Segmentation (Mentor: Dr. Yuqian Zhou): Class-agnostic visual instance retrieval using a single user click and attention mechanisms (2 patents, 1 CVPR'23).

06/2022 –
11/2023

Image and Video Matting (Mentor: Dr. Joon-Young Lee): Optimize matting models using weak segmentation masks (\uparrow 6x speed, \downarrow 75% mem) (1 patent, 1 CVPR'24).

VinAI Research - AI Resident

Vietnam

High-resolution Semantic Segmentation (Mentor: Prof. Minh Hoai): integrated global and local context across scales for high-resolution segmentation (1 CVPR'21).

07/2019 –
01/2021

Honors & Awards

- 2025 **CVPR Doctoral Consortium Travel Award**
- 2021 **Dean's Fellowship** – Ph.D. UMD
- 2020 **Top 2%** (19/1317) in FGVC Challenge, CVPR Workshop
- 2020 **Third prize** (3rd/217) in Ho Chi Minh City – AI City Challenge, Vietnam
- 2019 **Bronze medal** – top 7% (196/2931) in APTOS Kaggle Competition
- 2019 **Best poster presentation** in Southeast Asia Machine Learning School, Indonesia

Activities

- 2021-now Reviewer at ICCV, ECCV, ACCV, WACV, AAAI, CVPR, NeurIPS, WACV, TPAMI, Pattern Recognition
- 2018-2024 Lecturer at VietAI (non-profit teaching organization promoting AI education in Vietnam)
- 2019 Instructor of "Get-In-Tech series: AI & ML" at U.S. Embassy, Hanoi, Vietnam

Skill Sets

Languages: Python (Proficient), C/C++ (libtorch, TensorRT), Java, Javascript.

Frameworks: LLM, Huggingface, PyTorch, Scikit-Learn, Numpy, OpenCV, Docker, AWS, GCP, Linux.