# Minh Tran

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## Summary

My research interests are deep learning algorithms for visual perception tasks (object detection, segmentation, pose estimation, etc.) and path/motion planning regarding visual perception. Currently, my work involves exploring deep learning algorithms for semantic and instance segmentation tasks in images and videos. I have authored several papers, including a first-author conference paper at BMVC on instance segmentation, two first-author conference papers on medical image segmentation at ISBI and ICPR, and a first-author journal paper on medical image registration at TMI. Additionally, I have contributed to projects related to mobile robot navigation (with a first-author publication at NICS) and federated learning for autonomous driving (with a co-author publication at IV). My works have received 110 citations, and my h-index is 4.

## Skills

Computer Vision, Panoptic Segmentation, Deep Reinforcement Learning, Pytorch, Detectron2

## Experience

**AICV Lab, University of Arkansas**
*Graduate Research Assistant* *Sep 2021 - Present*

- *Instance and Semantic Segmentation: Working on amodal instance segmentation (which aim to predict the whole segmentation of objects, including occluded parts); high-quality semantic segmentation on poultry and aerial imagery; medical image segmentation.*
- *Behaviour Understanding in Poultry Science: Working on detection, segmentation, and keypoint estimation tasks for chicken's behaviour understanding.*

**AIOZ AI**
*Research Engineer* *Aug 2020 - Aug 2021*

- *Indoor Delivery Robot: Developed algorithms for localization module of an indoor self-delivery robot.*
- *Medical Imaging: Developed light-weight models for medical image registration.*

## Education

**University of Arkansas**, Fayetteville, AR
*Ph.D. in Computer Science (Advisor: Ngan Le)* *Aug 2021 - Present*

**University of Science, VNU-HCM**
*B.Sc. Honors in Computer Science* *Sep 2016 - Oct 2020*

## Selected Publication

**Journal Papers**

- **Minh Tran**, et al. **Light-Weight Deformable Registration Using Adversarial Learning With Distilling Knowledge, IEEE transactions on medical imaging**

**Conference Papers**

- **Minh Tran**, et al. **AISFormer: Amodal Instance Segmentation with Transformer, In The 33rd British Machine Vision Conference, 2022**
- **Minh Tran**, et al. **SS-3DCapsNet: Self-supervised 3D Capsule Networks for Medical Segmentation on Less Labeled Data, In 2022 IEEE International Symposium on Biomedical Imaging (ISBI)**
- Anh Nguyen, Tuong Do, **Minh Tran**, et al. **Deep Federated Learning for Autonomous Driving, In 2022 IEEE Intelligent Vehicles Symposium (IV), 2021**

## Open source Projects

**AIStron: Amodal Instance Segmentation Toolbox and Benchmark**
*AIStron is an open-source toolbox that provides current Amodal Instance Segmentation (AIS) methods.*

## Awards

**Rodger S. Kline Chair Scholarship** *Jan 2023*
*Graduate scholarship for top-nominated graduate students at University of Arkansas*

**Reginald R. "Barney" & Jameson A. Baxter Graduate Fellowship** *Aug 2022*
*Graduate scholarship for top-nominated graduate students at University of Arkansas*

## Teaching Experience

**CSCE 4133: Algorithms, University of Arkansas**
*Teaching Assistant*

**NACME Google AMLI Summer Program**
*Teaching Assistant*

## Services

**Reviewer** at MICCAI 2023