

# HYUNJAE WOO

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## EDUCATION

**University of Michigan, Ann Arbor**

Sep 2021 - (expected) Apr 2023

M.S.E. in Computer Science and Engineering

**University of Michigan, Ann Arbor**

Sep 2013 - Dec 2019

B.S.E. in Computer Science and Engineering

*Relevant Courses:* Machine Learning, Deep Learning, Computer Vision, Reinforcement Learning, Linear Algebra, Data Structure & Algorithm, Computer Networks, Computer Security

## PUBLICATION

**Fast Inference and Transfer of Compositional Task for Few-shot Task Generalization**

Sungryull Sohn, **Hyunjae Woo**, Jongwook Choi, Lyubing Qiang, Izzeddin Gur, Aleksandra Faust, Honglak Lee  
In the *Neural Information Processing Systems (NeurIPS)* Deep RL workshop, 2021 [[Link](#)]

**Meta Reinforcement Learning with Autonomous Inference of Subtask Dependencies**

Sungryull Sohn, **Hyunjae Woo**, Jongwook Choi, Honglak Lee  
In the *International Conference on Learning Representations (ICLR)*, 2020 [[OpenReview](#) / [arXiv](#)]

## RESEARCH / WORK EXPERIENCE

**University of Michigan, Ann Arbor, Research Assistant**

Oct 2017 - Dec 2020

- Published a ML paper at **ICLR** and **NeurIPS** on meta learning and deep reinforcement learning (RL).
- Designed research experiments on StarCraft II Learning Environment and symbolic web navigation domain.
- Implemented various deep reinforcement learning baseline models (i.e. A3C, PPO) using PyTorch.
- Presented a research work at various ML conferences both physically and virtually.

**U of Michigan Transportation Research Institute, Undergrad Assistant**

Jan 2019 - May 2019

- Developed LiDAR dataset reader in C# that uses Pcap.Net to convert TCP packets into CSV files.
- Collected various LiDAR datasets for each different road lane materials and weather conditions.

**Seoul National University, Summer Research Intern**

May 2017 - Aug 2017

- Implemented data pipeline for image captioning baseline models (i.e. seq2seq, im2txt) using Tensorflow.
- Developed data preprocessing for large scale multimedia and dialogue dataset, YFCC100M and Ubuntu Corpus.

## SOFTWARE PROJECTS

**Mini Netflix - Video Streaming Content Distribution Network**

- Built video streaming content distribution Network (CDN) for multiple client browsers using C++.
- Implemented HTTP proxy for video bitrate adaptation and DNS server for load balancing.

**Transfer Learning for Fire Detection**

- Built a custom fire dataset for transfer learning with total 617 fire images and ground-truth labels.
- Fine-tuned YOLO-v2 using the pre-trained weights and the custom fire dataset with Python and Tensorflow.

## AWARDS AND HONORS

University Honors

Apr 2016

Dean's Honor List

Dec 2013, Apr 2016

George Washington University SEAS Engineering Awards

Apr 2013

## TECHNICAL SKILLS

**Programming Languages**

Python, C/C++, C#, Javascript, HTML, CSS, Bash

**Skills & Softwares**

PyTorch, Tensorflow, Scikit-learn, Pandas, Linux/Unix, Git, GCP, AWS