

# Wonjoon Goo

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## Research Interest

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Reinforcement Learning, Learning from Demonstration, Computer Vision, and Robotics

## Education

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Ph.D. in Computer Science University of Texas at Austin Advisor: Prof. Scott Niekum	Aug.2016-Current
Master in Computer Science University of Texas at Austin GPA 4.0/4.0	Aug.2016-Dec.2018
B.S. in Computer Science and Engineering (Summa Cum Laude, 3/56) Seoul National University GPA 4.03/4.3    GPA in major 4.07/4.3	Mar.2008-Feb.2016
Exchange Student in Computer Science Dept. University of Toronto GPA in major 4.0/4.0	Sep.2014-Dec.2014

## Work and Research Experience

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<b>Research Intern</b> Naver Clova AI Research, Seongnam, Korea Advisor : Prof. Joseph Lim and Dr. Minsuk Chang • Topic: Offline RL	May.2021-Aug.2021
<b>Research Intern</b> Preferred Networks, Tokyo, Japan Advisor : Dr. Tommi Kerola and Toru Ogawa • Topic: Video Object Segmentation (VOS) Ranked 4th place on the 1st large-scale video object segmentation challenge	May.2018-Aug.2018
<b>Lead Web Programmer</b> Art247, Paju, Korea • Developed a commercial website using Django web framework	Apr.2016-Jun.2016

Site link : <https://m314.kr> (currently unavailable)

### Undergraduate Research Intern

Mar.2015-Apr.2016

Vision & Learning Laboratory, Seoul National University

Advisor : Prof. Gunhee Kim

- Worked on integrating external information, such as a taxonomy graph, to CNN architecture (see Publications below)
- Collaborated with Prof. Sung Ju Hwang at Ulsan National Institute of Science and Technology
- Worked on active exploration policy learning for robot vision
- Collaborated with Prof. Jehee Lee at Seoul National University

### Lead Server Programmer (as an alternative military service)

Dec.2010-Jan.2014

Ani-Park, Seoul, Korea

- Developed a distributed game server in C++
- Maintained RDBMS with SQL
- Developed a web interface that can control servers and clients using Node.js

### Summer Engineering Intern

Jun.2010-Aug.2010

Redduck, Seoul, Korea

- Implemented a PID controller for an autonomous driving car in Unreal Engine

## Publications

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### *International Conferences*

1. Farzan Memarian\*, **Wonjoon Goo\***, Rudolf Lioutikov, Ufuk Topcu, and Scott Niekum (\*equal contribution). *Self-Supervised Online Reward Shaping in Sparse-Reward Environments*. International Conference on Intelligent Robots and Systems (IROS). Online, 2021. (To appear)
2. Daniel Brown, **Wonjoon Goo**, and Scott Niekum. *Better-than-Demonstrator Imitation Learning via Automatically-Ranked Demonstrations*. Conference on Robot Learning (CoRL). Osaka, Japan, 2019.
3. Daniel Brown\*, **Wonjoon Goo\***, Prabhat Nagarajan, and Scott Niekum (\*equal contribution). *Extrapolating Beyond Suboptimal Demonstrations via Inverse Reinforcement Learning from Observations*. International Conference on Machine Learning (ICML). Long Beach, CA, 2019.
4. **Wonjoon Goo** and Scott Niekum. *One-Shot Learning of Multi-Step Tasks from Observation via Activity Localization in Auxiliary Video*. International Conference on Robotics and Automation (ICRA). Montreal, Canada, 2019.
5. **Wonjoon Goo**, Juyong Kim, Gunhee Kim, and Sung Ju Hwang. *Taxonomy-Regularized Semantic Deep Convolutional Neural Networks*. European Conference on Computer Vision (ECCV). Amsterdam, The Netherlands, 2016.

*Preprints*

1. **Wonjoon Goo** and Scott Niekum. *Local Nonparametric Meta-Learning*. arXiv:2002.03272, February 2020.

*Workshops*

1. **Wonjoon Goo** and Scott Niekum. *You Only Evaluate Once — a Simple Baseline Algorithm for Offline RL*. Neural Information Processing Systems (NeurIPS) workshops on Offline Reinforcement Learning (Offline RL), 2020.

**Honors and Awards**

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Graduate Dean's Prestigious Fellowship Supplement, UT Austin	2017-2020
Kwanjeong Educational Foundation Fellowship	2016-2020
NVIDIA Deep Learning Contest 2016 (Korea)	Oct. 2016
• 2nd place in Free Topic	
Excellent CSE Thesis Awards, Seoul National University	2016
National Scholarship for Science and Engineering	2008-2010, 2014
• Full tuition & fees during regular college years, funded by Korea Student Aid Foundation	
Outgoing Exchange Student Scholarship	2014 Fall
• \$2,000 from Office of International Affairs	

**Teaching Experience & Extracurricular Activities**

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Graduate Teaching Assistant, UT Austin	Fall, 2019
• CS 394R, Reinforcement Learning: Theory and Practice	
Graduate Teaching Assistant, UT Austin	Fall, 2016
• CS 313E, Elements of Software Design	
Samsung Convergence Software Course (SCSC) Mentoring Program	Mar.2015-Dec.2015
• Selected as a mentor to help students coming for double major in CSE	

**Skills**

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*Programming Language / Library*

Python, C++, SQL, Matlab, NoSQL (mongodb), Javascripts  
 Tensorflow, Chainer, Caffe  
 Vim, CUDA, Scala (Interested)