Wonjoon Goo

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Research Interest

Imitation Learning, Reinforcement Learning, Computer Vision, and Robotics

Education

Ph.D. in Computer Science — Aug. 2016 - Present (Expected Graduation: Fall 22)
The University of Texas at Austin
Dissertation: *Imitation Learning with Auxiliary, Suboptimal, and Task-Agnostic Data*
Advisor: Prof. Scott Niekum

Master in Computer Science — Aug. 2016 - Dec. 2018
The University of Texas at Austin
GPA 4.0/4.0

B.S. in Computer Science and Engineering (Summa Cum Laude, 3/56) — Mar. 2008 - Feb. 2016
Seoul National University
GPA 4.03/4.3 GPA in major 4.07/4.3

Exchange Student in Computer Science Dept. — Sep. 2014 - Dec. 2014
University of Toronto
GPA in major 4.0/4.0

Work and Research Experience

Research Intern — May 2021 - Aug. 2021
Naver Clova AI Research, Seongnam, Korea
Advisor : Prof. Joseph Lim and Dr. Minsuk Chang
- Topic: Offline Reinforcement Learning

Research Intern — May 2018 - Aug. 2018
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

Lead Web Programmer — Apr. 2016 - Jun. 2016
Art247, Paju, Korea

- Developed a commercial website using Django web framework
  Site link : https://m314.kr (currently unavailable)

Undergraduate Research Intern Mar. 2015 - Apr. 2016
Vision & Learning Laboratory, Seoul National University
Advisor : Prof. Gunhee Kim

- Topic: Semantic image classification with auxiliary data (in collaboration with Prof. Sung Ju Hwang)
- Topic: Active exploration for robot vision (in collaboration collaborate with Prof. Jehee Lee)

Lead Server Programmer (worked as an alternative military service) Dec. 2010 - Jan. 2014
Ani-Park, Seoul, Korea

- Developed and implemented a distributed game server application and management tools
- Technical Stack: C++, RDMBS, Node.js, and HTML5

Summer Engineering Intern Jun. 2010 - Aug. 2010
Redduck, Seoul, Korea

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

Publications

Peer-Reviewed Conference Papers

1. **Wonjoon Goo** and Scott Niekum. *You Only Evaluate Once — a Simple Baseline Algorithm for Offline RL*. Conference on Robot Learning (CoRL). London, UK, 2021.
2. 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.
3. Daniel Brown, **Wonjoon Goo**, and Scott Niekum. *Better-than-Demonstrator Imitation Learning via Automatically-Ranked Demonstrations*. Conference on Robot Learning (CoRL). Osaka, Japan, 2019.
4. 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.
5. **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.
6. **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. *Know Your Boundaries: The Necessity of Explicit Behavior Cloning in Offline RL*. (under review).

2. Harshit Sikchi, Akanksha Saran, **Wonjoon Goo**, and Scott Niekum. *A Ranking Game for Imitation Learning*. arXiv:2202.03481, February 2022.
3. **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

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

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

Programming Language / Library

Tensorflow, JAX, PyTorch
Python, C++, SQL, Matlab, NoSQL (mongodb), Javascripts
Vim, CUDA

Last updated: July 20, 2022