Seungjae Lee **Robot Learning, Reinforcement Learning**

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Education

- **Seoul National University** Seoul, Korea
  B.S., Mechanical and Aerospace Engineering *Mar. 2015 - Feb. 2021*

- **Seoul National University** Seoul, Korea
  M.S., Aerospace Engineering *Mar. 2021 - Present*
  Advisor: Prof. H. Jim Kim (Lab for Autonomous Robotics Research)

Publications (* Equal Contribution) [Publications URL: sjlee.cc]

- CQM: Curriculum Reinforcement Learning with a Quantized World Model
  ***Seungjae Lee**, Daesol Cho, Jonghae Park, H Jin Kim*
  Thirty-seventh Conference on Neural Information Processing Systems, 2023, **NeurIPS'23**

- Diversify Conquer: Outcome-directed Curriculum RL via Out-of-Distribution Disagreement
  *Daesol Cho, **Seungjae Lee**, H Jin Kim*
  Thirty-seventh Conference on Neural Information Processing Systems, 2023, **NeurIPS'23**

- SNeRL: Semantic-aware Neural Radiance Fields for Reinforcement Learning
  Dongseok Shim, **Seungjae Lee***, H Jin Kim Kim*
  Fortieth International Conference on Machine Learning, 2023, **ICML'23**

- Outcome-directed Reinforcement Learning by Uncertainty & Temporal Distance-Aware Curriculum Goal Generation
  Daesol Cho, **Seungjae Lee***, H Jin Kim* ***Spotlight***
  Eleventh International Conference on Learning Representations, 2023, **ICLR'23**

- Deep End-to-End Imitation Learning for Missile Guidance with Infrared Images
  ***Seungjae Lee**, Jongho Shin, Hyeong-Geun Kim, Daesol Cho, H. Jin Kim*
  International Journal of Control, Automation and Systems (IJCAS), 2023, **IJCAS'23**

- DHRL: A Graph-Based Approach for Long-Horizon and Sparse Hierarchical Reinforcement Learning
  Seungjae Lee**, Jigang Kim, Inkyu Jang, H Jin Kim* ***Oral
  Thirty-sixth Conference on Neural Information Processing Systems, 2022, **NeurIPS'22**

- Robust and Recursively Feasible Real-Time Trajectory Planning in Unknown Environments
  *Inkyu Jang, Dongjae Lee, **Seungjae Lee**, H Jin Kim*
  2021 IEEE/RSJ International Conference on Intelligent Robots and Systems, 2021, **IROS'21**

Teaching / Work Experience

- **Teaching Assistant, Principles of Flight Vehicle Control**
  Department of Aerospace Engineering, Seoul National University *Mar. 2021 - Jun. 2021*

- **Internship, Samsung Electronics (Neural Network Quantization)**
  Deep Learning Algorithm Team / Device Solutions (DS) *Jul. 2020 - Sep. 2020*

Projects

- **Vector-Quantized Behavior Transformer for Multi-Modal Demonstrations**
  Co-work with Generalizable Robotics and AI Lab (Prof. Lerrel Pinto) at New York University *Jul. 2023 - Present*

- **Training Excavator Virtual Driver based on Inverse RL**
  Co-work with HD Hyundai Heavy Industries Co., Ltd. *Apr. 2023 - Present*

- **End-to-End Machine Learning Based Guidance Research**
  Co-work with a Korean national research institute *May. 2021 - Apr. 2023*

Awards and Achievements

- (Awards) Graduated Summa Cum Laude, Seoul National University *Feb. 2021*
- (Scholarship) Hyundai Motor Chung Mong-Koo Foundation *Sep. 2021 - Present*
- (Awards) NeurIPS Scholar Award *Dec. 2022*
- (Awards) Global Excellence Scholarship 2022, Hyundai Motor Chung Mong-Koo Foundation *Dec. 2022*
- (Awards) Best poster competition, SNU Artificial Intelligence Institute Spring Retreat *May. 2023*
- (Awards) Global Excellence Scholarship 2023, Hyundai Motor Chung Mong-Koo Foundation *Jun. 2023*