

Seunghyeop Nam

PERSONAL INFORMATION

Birth: 10. Sep. 1999

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RESEARCH INTERESTS

Keywords: Deep Reinforcement Learning (DRL), Robot Navigation, Unknown Space Exploration, Fusion Learning, Cryptocurrency DRL Trading, Deep Learning

Objective: Advance the state of Deep Reinforcement Learning through innovative research in robot navigation, unknown space exploration, and fusion learning. Apply DRL techniques to interdisciplinary areas, including cryptocurrency trading, autonomous systems, and novel AI-driven applications.

EDUCATION

Konkuk University

Seoul, Korea

Bachelor of Computer Science and Engineering

Mar. 2019 – Aug. 2025

PUBLICATIONS

Seunghyeop Nam, Changseok Woo, Sinkyu Kang, Tuan Anh Nguyen, and Dugki Min. "iNAV-drlSLAM: An Improved Indoor Self-Driving Framework for Mobile Robots using Deep Reinforcement Learning integrated with SLAM." In 2023 15th International Conference on Advanced Computational Intelligence (ICACI), pp. 1-8. IEEE, 2023.

Seunghyeop Nam, Changseok Woo, Sinkyu Kang, Tuan Anh Nguyen, and Dugki Min. "SLAM-DRLnav: A SLAM-Enhanced Deep Reinforcement Learning Navigation Framework for Indoor Self-driving." In 2023 International Conference on Mechatronics, Control and Robotics (ICMCR), pp. 44-48. IEEE, 2023.

Seunghyeop Nam, Tuan Anh Nguyen, Eunmi Choi, and Dugki Min. "SHANGUS: Deep Reinforcement Learning Meets Heuristic Optimization for Speedy Frontier-Based Exploration of Autonomous Vehicles in Unknown Spaces." arXiv preprint arXiv:2407.18892 (2024).

Seunghyeop Nam, Tuan Anh Nguyen, Eunmi Choi, and Dugki Min. "fh-ANGUS: An Adaptive Frontier-Based Robot Exploration Architecture in Unknown Spaces using Deep Reinforcement Learning and Heuristics" 2024 IEEE Transactions on Cybernetics [Under Review].

Seunghyeop Nam, Tuan Anh Nguyen, Eunmi Choi, and Dugki Min. "A Multi-head Fusion-based Actor-Critic Deep Reinforcement Learning with Memory Contextualise for End-to-End Autonomous Navigation" 2024 IEEE Transactions on Pattern Analysis And Machine Intelligence [Under Review].

RESEARCH EXPERIENCE

Konkuk University, Distributed Multimedia Systems (DMS) Lab **Seoul, Korea**

Undergraduate Researcher

Jul. 2021 – Present

- Participated in the Midcareer Researcher Grant, Participating Intelligent MAEC Collaborative Framework (i-MeC2 Framework)
- Conducted research on robot navigation technologies, including Simultaneous Localization and Mapping (SLAM), sensor fusion, stabilization, and frontier-based exploration using Deep Reinforcement Learning.
- Developed state-of-the-art DRL algorithms for applications in cryptocurrency trading and robotic systems.
- Designed neural networks for disease detection in both human and agricultural contexts.

LG ThinQ

Seoul, Korea

Primary Developer for Industrial Project: "Smart Mirror"

Feb. 2021 – Dec. 2021

- Developed a Smart Mirror system capable of displaying dynamic information such as weather forecasts, news headlines, and calendars.
- Integrated natural language processing (NLP) capabilities for conversational interactions with users.
- Implemented emotion detection and classification algorithms to recommend attire based on users' current mood.

AWARDS AND HONORS

- 1st Place, VEX Robotics National Competition *2017*
- Participant and Judge, VEX Robotics World Championship *2017*

ADDITIONAL INFORMATION

Programming Skills: Python, C, C++, Java, Javascript, Kotlin, MATLAB, SQL, Computer Vision, Deep Learning, Deep Reinforcement Learning.

Languages: Korean (native fluency), English (professional proficiency), German (A2)

Certificate and Licences:

- Driver's Licence (Republic Of Korea): 1st Class (Ordinary) *Dec. 2017*
- Driver's Licence (Republic Of Korea): 2nd Class (Small) *Aug. 2018*
- Craftsman Bartender (Human Resources Development Service of Korea) *Apr. 2019*
- MOS PowerPoint(Microsoft) *Apr. 2019*
- MOS Excel Core(Microsoft) *Jun. 2019*