

Hoseong Jung

#Agency for Defense Development, #Daejeon, #Republic of Korea
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RESEARCH INTERESTS

#Autonomous Navigation, #Offline Reinforcement Learning, #Learning-based Robot Control

EDUCATION

#Seoul National University

Ph.D. student in Interdisciplinary Program in Artificial Intelligence
B.S., Electrical and Computer Engineering

Sep. 2024 - Present
Mar. 2017 - Feb. 2021

RESEARCH EXPERIENCE

Agency for Defense Development - AI & Autonomy Center

Fulltime Research Engineer

Daejeon, Republic of Korea
Jun. 2021 - May. 2024

- **Project: AI for Air Combat Engagement**

Developed simulated air combat environment for evaluating AI solutions

Researched reinforcement-learning-based policies for autonomous air combat

- **Project: Research on AI-based Context-Adaptive Swarming Unmanned Aircraft Operation**

Explored offline reinforcement learning approaches to create an autonomous air combat model

Research Officers for National Defense - Korean Navy

First Lieutenant

Jun. 2021 - May. 2024

Undergraduate Intern

LG Electronics

Jun. 2019 - Aug. 2019

AIoT Lab, Seoul National University

Oct. 2020 - Feb. 2021

PUBLICATIONS

#International

- **Maneuver-Conditioned Decision Transformer for In-Flight Decision-Making**

H. Jung, Y. -D. Kim and Y. Kim, in IEEE Robotics and Automation Letters, 2024.

- **Deep Reinforcement Learning-Based Air-to-Air Combat Maneuver Generation in a Realistic Environment**

J. H. Bae, H. Jung, S. Kim, S. Kim and Y. -D. Kim, in IEEE Access, 2023.

#Domestic

- **AI-based Air-to-air Close Combat Model**

Y. -D. Kim, S. Kim, J. H. Bae, H. Jung, S. Kim, in Avionics Systems Symposium Korea, 2022. Best Paper Award

- **A Study on the Improvement of Air-to-air Combat Capacity Using Imitation Learning**

H. Jung, J. H. Bae, Y. -D. Kim, S. Kim, S. Kim, in Conference of the Korea Institute of Military Science and Technology, 2022. [Oral]

- **Offline Reinforcement Framework for Aerial Maneuver Generation**

H. Jung, Y. -D. Kim, Y. Kim, in Conference of the Korea Institute of Military Science and Technology, 2023. [Poster]

SKILLS

- **Programming:** # Python; C++;
- **Software & Package:** # Tensorflow; Pytorch; Ray;

PATENTS

- **Learning Method for Controlling Unmanned Aerial Vehicle and Electronic Device for Performing the Same**

J. H. Bae, S. Kim, S. Kim, Y. -D. Kim, I. Hwang, H. Jung, registration number: 10-2559608, KR Patent

- **Learning Method for Computer Generated Force Capable of Adjusting Engagement Level and Electronic Apparatus Therefor**

H. Jung, Y. -D. Kim, S. Kim, M. Lee, S. Lee, Y. Lee, registration number: 10-2620631, KR Patent