HEEKUN ROH

hroh@mit.edu

Ph.D. Student at Massachusetts Institute of Technology, United States

EDUCATION

Massachusetts Institute of Technology (MIT)   Sep 2023 - Present
Ph.D. Candidate in Aeronautical and Astronautical Engineering (Advisor : Prof. Olivier L. de Weck)

Korea Advanced Institute of Science and Technology (KAIST)   Mar 2017 - Feb 2019
M. S. in Aerospace Engineering (Advisor: Prof. Min-Jea Tahk)

Korea Advanced Institute of Science and Technology (KAIST)   Mar 2013 - Feb 2017
B.S. in Aerospace Engineering, B.S. in Electrical Engineering (Double Major)

PROFESSIONAL EXPERIENCE

KAIST, Flight Dynamics and Control Lab (FDCL)   Dec 2022 - Aug 2023
Research Scientist (Development of Embedded Convex Optimization Solvers)

Satrec Initiative   Feb 2019 - Sep 2022
Associate Engineer (Satellite Attitude Determination and Control)

RESEARCH EXPERIENCE

KAIST, Flight Dynamics and Control Lab (FDCL)   Dec 2016 - Feb 2019

Fast Trajectory Optimization using Sequential Convex Methods

Optimal Allocation of Assets using Mixed Integer Linear Programming

FEATURED PUBLICATIONS

Journal Papers

[1] H. Roh, Y.J. Oh, M.J. Tahk, K.J. Kwon, and H.H. Kwon, "L1 Penalized Sequential Convex Programming for Fast Trajectory Optimization: With Application to Optimal Missile Guidance," *International Journal of Aeronautical and Space Sciences(IJASS)*, Vol. 21, pp. 493-503, Jun. 2020.

[2] H. Roh, Y.J. Oh, M.J.Tahk, and Y.R. Jung "Optimal Weapon-Target Assignment of Multiple Dissimilar Closed-In Weapon Systems Using Mixed Integer Linear Programming", Journal of Korean Society for Aeronautical and Space Sciences, Vol. 47, No. 11, pp.787-794, Nov. 2019.

International Conference Papers

[1] H. Roh, Y.J. Oh, M.J. Tahk, and C.H. Lee, "Fast Trajectory Optimization Using Sequential Convex Method for Guided Missiles," *The 5th CEAS Conference on Guidance, Navigation and Control (EuroGNC)*, Milano, Italy, Apr. 2019.

[2] H. Roh, M.H. Cho and M.J.Tahk, "Trajectory Optimization Using Cramer-Rao Lower Bound for Bearings-Only Target Tracking," *AIAA Scitech Forum 2018*, Kissimmee, Florida, USA, Jan. 2018.

FEATURED HONORS & AWARDS

Graduation with Highest Honors	Feb 2017
Dean's List, College of Engineering	Mar 2015
KAIST Presidential Fellowship	Mar 2013 - Feb 2017
Boeing Scholarship	Mar 2014 - Dec 2016
Cansat Competition Korea 2014, 2nd Place	Aug 2014
Cansat Competition Korea 2012, 1st Place	Aug 2012

LANGUAGE PROFICIENCY

Korean
Native

English
Full Professional Proficiency
(TOEFL 110, GRE V165/Q170/AW5.0, 2022)

French
Advanced Working Proficiency
(DELF B2, 2016)