Jeonghyun Byun

PhD Student

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Education

Seoul National University   *Seoul, Republic of Korea*

PHD AEROSPACE ENGINEERING   *2020.03.02 -*

- GPA: 3.98 / 4.3
- Advisor: H. Jin Kim

Seoul National University   *Seoul, Republic of Korea*

BS AEROSPACE ENGINEERING   *2016.03.02 - 2020.02.26*

- GPA: 4.05 / 4.3
- Dissertation: Simulation of the object grabbing using a hexacopter with a 2-DOF robotic arm
- Advisor: H. Jin Kim

Publications

INTERNATIONAL JOURNALS

Dongjae Lee[1] **Jeonghyun Byun**, H. Jin Kim. RISE-based trajectory tracking control of an aerial manipulator under uncertainty. IEEE Control Systems Letters (L-CSS).

INTERNATIONAL CONFERENCES

Jeonghyun Byun[1], Byeongjun Kim, Changhyeon Kim, Donggeon David Oh, H. Jin Kim. Stable Contact Guaranteeing Motion/Force Control for an Aerial Manipulator on an Arbitrarily Tilted Surface. 2023 International Conference on Robotics and Automation (ICRA).

Byeongjun Kim[1], Dongjae Lee, **Jeonghyun Byun**, H. Jin Kim. Globally Defined Dynamic Modelling and Geometric Tracking Controller Design for Aerial Manipulator. 2023 International Conference on Robotics and Automation (ICRA).

Donggeon David Oh[1], **Jeonghyun Byun**, Dongjae Lee. Real-Time Trajectory Generation of a Quadrotor UAV with Load Suspended from a Pulley. 2022 21th International Conference on Control, Automation and Systems (ICCAS).

Jeonghyun Byun[1], H. Jin Kim, Miso Kwon. Hybrid motion/force control of the aerial manipulator without information on the added equipment. 2022 13$^{\text{rd}}$ Asian Control Conference (ASCC 2022).

Jeonghyun Byun[1], H. Jin Kim. Robust Control of the Aerial Manipulator with a Fixed End-effector Position. 2021 20th International Conference on Control, Automation and Systems (ICCAS). **Presented in Award Session**

Dongjae Lee[1], Inkyu Jang[1], **Jeonghyun Byun**, Hoseong Seo, H. Jin Kim. Real-Time Motion Planning of a Hydraulic Excavator using Trajectory Optimization and Model Predictive Control. 2021 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS).

Jeonghyun Byun[1], Dongjae Lee, Hoseong Seo, Inkyu Jang, Jeongjun Choi, H. Jin Kim. Stability and Robustness Analysis of Plug-Pulling using an Aerial Manipulator. 2021 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS).

Jeonghyun Byun[1], Dongjae Lee, H. Jin Kim, Hyeonbeom Lee. On-line Parameter Estimation of a Hexacopter Equipped with 2-DOF Robotic Arm against Disturbance. 2020 20th International Conference on Control, Automation and Systems (ICCAS).

DOMESTIC JOURNALS

DOMESTIC CONFERENCES

Honors

AWARDS

2022.11	**Incentive Award, Aerospace Paper Award**, Korea Aerospace Industries, LTD.
2020.02	**Award Certificate**, Department of Aerospace Engineering, Seoul National University
2020.02	**Summa Cum Laude**, Seoul National University
2018.09	**Honorable Mention, 7th SNU Creative Design Fair**, College of Engineering, Seoul National University
2017.09	**Honorable Mention, 6th SNU Creative Design Fair**, College of Engineering, Seoul National University

FELLOWSHIPS

2021.11 – 2022.02	**BK21 Excellent Research Talent Fellowship**, BrainKorea21PLUS
2020.03 – 2020.08	**BK21 PLUS Doctoral Fellowship**, BrainKorea21PLUS
2019.03 – 2020.02	**Eminence scholarship**, Seoul National University
2018.11	**KAI-KSAS Scholarship**, Korean Aerospace Industry & Korean Society for Aeronautical and Space Sciences
2018.03 – 2019.02	**Sinyang Cultural Foundation Scholarship**, Sinyang Cultural Foundation
2017.03 – 2018.02	**Eminence scholarship**, Seoul National University
2016.09 – 2017.02	**Merit Based scholarship**, Seoul National University

Teaching Experience

2021.03 - 2021.06	**Tutor, Engineering Maths 1, Seoul National University,** Solved some difficult problem sets
2020.09 - 2020.12	**Teaching Assistant, Introductory Engineering Probability, Seoul National University,** Developed scoring criteria for the exams
2020.09 - 2020.12	**Tutor, Physics 2, Seoul National University,** Solved some difficult problem sets
2020.03 - 2020.06	**Teaching Assistant, Engineering Maths 1, Seoul National University,** Developed scoring criteria for the exams
2017.03 - 2018.06	**Tutor, Physics, Seoul National University,** Solved some difficult problem sets

Skills

Programming: C/C++, MATLAB

Language: Korean (native), English (proficient), French (elementary)

Tools: Git, ROS, Arduino, Fusion360, Onshape