



EDUCATION:

MS & PhD Candidate

- Astronomy and space science Instrument Research Lab., School of Space Research, Kyung Hee University, Korea

BSc

- Department of Astronomy & Space Science, Kyung Hee University, Korea

KEY QUALIFICATIONS:

- Fluent in Korean and limited English, and Japanese conversation skills
- Experienced in Arduino, Python and C languages
- Competent in AutoCAD, SolidWorks, UG NX, CINEMA 4D, 3D Max, LabVIEW, and NX Nastran
- System engineering and mechanical engineering experience in three CubeSats: KHUSAT-01, KHUSAT-02, KHUSAT-03
- Experienced in ground based magnetometer, telescopes, detector, and filter wheel systems.

RESEARCH EXPERIENCE

[School of Space Research, Kyung Hee University, Korea]

2016-Present *Korea Lunar Pathfinder Orbiter, Mechanical Engineer*

Advisor: Ho Jin

- Development of the first Korean Lunar Exploration KMAG Payload
- Designed the fluxgate magnetometer, folding boom, and electronics models.
- Designed the deployable moving parts of elbow hinge, and stopper.

2014-2015 *Search-coil magnetometer, Mechanical Engineer*

Advisor: Khan-Hyuck Kim

- Development of ground-based search-coil magnetometer for the Jang Bogo Station in Antarctica
- Designed of search-coil magnetometer, spools, and winding supporters
- Consulted on thermal and structural aspects of the science instrument suite

2013-2015 *SIGMA CubeSat, Project Manager/System Engineer*

Advisor: Ho Jin

- Managed integration of technical efforts of the development team
- Coordinated collaboration between Kyung Hee University (KHU), Korea Astronomy and Space Science Institute (KASI) in Korea, York University (YU) in Canada, University of New Hampshire (UNH), New Jersey Institute of Technology (NJIT) in USA
- Led Design of the magnetometer deployment system, avionics bus, chassis and payloads
- Managed and directed entire of the CubeSat development system
- Led environment tests of the QM and FM SIGMA
- Prepared CubeSat assembly procedure, test procedure and executive document

2012-2014 *OWL, Detector Subsystem Engineer*

Advisor: Ho Jin

- Cooperated with KASI, KRISS, Rainbow System Inc., G-solution, and Green Optics.
- Designed of time tagger, photodiode sensor, harness system
- Evaluate the performance and characteristic of KODAK KAF-16803 sensor
- Supervised DT functional and reliability tests

2012-2013 *CINEMA CubeSat, Mechanical Engineer*

Advisor: Dong Hun Lee

- Cooperated with UC Berkeley (UCB), and Imperial College London (ICL)
- Assembled the FM of avionics bus, UHF antenna, chassis, and moving parts of the STEIN and MAGIC
- Managed CAD model and 2D drawing of CubeSat
- Led environment test of QM and FM CINEMA
- Designed the LabVIEW TCP/IP monitoring program using the NI-cRIO for the thermal vacuum chamber system of KHU

[Department of Astronomy & Space Science, Kyung Hee University, Korea]

2011-2012 *CINEMA CubeSat, Undergraduate Research Assistant*

Advisor: Dong Hun Lee

- Assembled the QM of avionics bus, UHF antenna, chassis, STEIN and MAGIC
- Managed CAD model and 2D drawing of CubeSat

2009-2010 *Telescope Auto Guide System, Mechanical Engineer*

Advisor: Soojong Pak

- Designed telescope control system using stepping motors, 1394B PCI card, AM-MS2, NI USB-6008, and PIKE F-032
- Manufacture the structure system using CNC machine
- Designed stepping motor control and operation software using NI Vision and NI Motion of LabVIEW

JOURNAL PUBLICATIONS

- 2016 S. Jeong, H. Lee **S. Lee** et al., "Performance Test for the SIGMA Communication System" *J. Astron. Space Sci.* 33(4), 335-344 (2016)
- 2016 J. Shin, **S. Lee** et al., "Development of Ground-Based Search-Coil Magnetometer for Near-Earth Space Research" *J. of Magnetism* 21(4), 509-515 (2016)
- 2016 J. Lee, **S. Lee** et al., "Development of Flight Software for SIGMA CubeSat" *J. of The Korean Society for Aeronautical and Space Sciences* 44(4), 363-372 (2016)
- 2015 U.-W. Nam, W. K. Park, **S. Lee** et al., "Calibration of TEPC for CubeSat Experiment to Measure Space Radiation" *J. Astron. Space Sci.* 32(2), 145-149 (2015)
- 2013 J. Jeon, **S. Lee**, S Yoon et al., "Construction of a Thermal Vacuum Chamber for Environment Test of Triple CubeSat Mission TRIO-CINEMA" *J. Astron. Space Sci.* 30(4), 335-344 (2013)
- 2013 S. Park, **S. Lee** et al., "Development of a Data Reduction algorithm for Optical Wide Field Patrol" *J. Astron. Space Sci.* 30(3), 193-206 (2013)

Patent

- 2017 Control Moment Gyroscope and its contained Small Satellite, (10-2017-0039871)

CERTIFICATIONS

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| 2017 | Certified SolidWorks Professional (CSWP) Mechanical Design | Dassault Systèmes |
| 2014 | Radio operator`s license | Korea Communication Agency |

AWARD

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| 2016 | The deputy Prime Minister`s & Minister of Education Commendation
(16-12679) | Ministry of Education |
| 2016 | Certification, CubeSat AI&T (2016-1301) | Korea Aerospace Research Institute |
| 2013 | The winner, Korean CubeSat Contest (88) | Korea Aerospace Research Institute |