

SU YEON CHOI

R.O.K. Army Major

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EDUCATION

- Aug. 2020 – Present **University of Illinois at Urbana-Champaign** **Champaign, United States**
Ph.D., Aerospace Engineering
- Aug. 2014 – Aug. 2016 **Georgia Institute of Technology** **Atlanta, United States**
M.S., Aerospace Engineering
- Awarded full scholarship by Republic of Korea Ministry of National Defense (MND)
 - Thesis: Automatic Mass Balancing System for the 5-DOF Spacecraft Simulator
- Mar. 2006 – Mar. 2010 **Korea Military Academy (KMA)** **Seoul, South Korea**
B.S., Statistical Information Analysis, Military Art and Science (Dual degree)
- Two academic honors, awarded by Superintendent of of KMA, Spring 2007 and Fall 2009
 - First in the class, Department of Mathematics

WORK EXPERIENCE

- Mar. 2019 – Jun. 2020 **Korea Army Research Center for Future & Innovation** **Kyeryong, South Korea**
Warrior Platform Researcher
- Creating mid- and long-term R&D plans of warrior platform (individual combat system) for future warfare; three R&D proposals were officially selected as the long-term development plan of weapon systems by R.O.K. Army Headquarters
 - Conducting research to develop military satellite systems and perform space operations
 - Serving as the main point of contact for all the U.S-R.O.K. military related cooperation based on verbal and written communication and organizational skills; responsible for planning, coordinating, and implementing events for cooperation between the U.S. and R.O.K. military organizations
- Aug. 2016 – Aug. 2018 **Korea Army Academy at Yeong-Cheon** **Yeong-Cheon, South Korea**
Assistant Professor, Department of Mechanical Engineering
- Created course plans and teach several courses to approx. 400 cadets in Mechanical Engineering: Robotics, Introduction to Mechanical Engineering, Weapon Systems, and Ballistic Protection Engineering
 - Selected as an Outstanding Professor conferred to top five among 100 professors for excellent teaching, research, and contribution to the school, Spring 2018
 - Organized International Academic Seminar for the 66th commemoration of the Korean War, and invited and guided five Korean War veterans from the U.S. Army for one week tour
- Mar. 2013 – Dec. 2013 **55th Infantry Division** **Yongin, South Korea**
Intelligence Officer (S2)
- Designed and implemented military security plans for prevention of espionage
 - Trained staff to prevent disclosure of classified documents, and evaluated security plans of subordinate forces
- Dec. 2011 – Sep. 2012 **9th Infantry Division** **Goyang, South Korea**
Intelligence Officer (S2)
- Conducted surveillance and reconnaissance operations on the Demilitarized Zone
 - Cooperated with the local government and police to conduct united defense operations
- Jun. 2010 – Aug. 2011 **63rd Regiment, 21st Infantry Division** **Yanggu, South Korea**
Platoon Leader
- Led 30 soldiers and instructed personal weapon systems to new recruits
 - Selected as the best platoon leader among 40 lieutenants in the regiment

PUBLICATIONS

- Su Yeon Choi, Micro/Nano Satellites for Military Uses: Opportunities and Challenges, Defense

- and Technology, No. 489, Nov. 2019
- Su Yeon Choi, Dowan Cha, Unmanned Aerial Vehicles Using Machine Learning for Autonomous Flight; State-of-the-Art, Advanced Dynamics (SCIE), Mar. 2019
 - Su Yeon Choi, Automatic Mass-Balancing System Using PID Controller for a Hemispherical Air-Bearing Spacecraft Simulator, Trans. Korean Soc. Mech. Eng. A, Vol 42, pp. 495-503, May 2018
 - Wooram Kim, Su Yeon Choi, An Improved Implicit Time Integration Algorithm: The Generalized Composite Time Integration Algorithm, Computers and Structures (SCI), Vol 196, pp. 341-354, Feb. 2018
 - * Selected as a key scientific article contributing to excellence in science and engineering research, Advances in Engineering, Jun. 2018
 - Su Yeon Choi, Automatic Mass Balancing System for the 5-DOF Spacecraft Simulator, Master thesis of Georgia Institute of Technology, Aug. 2016

CONFERENCES

- Presented at the Daegu/Gyeongbuk Branch of Korean Society of Mechanical Engineers Conference, Oct. 2017
Title: Automatic Mass-Balancing System Using PID Controller for a Spherical Air-Bearing Spacecraft Simulator,
- Invited at Future's Warrior Platform Conference, Seoul International Aerospace & Defense Exhibition (ADEX), Oct. 2019
- Invited at Korea Space Forum 2019, Ministry of Science and ICT, Jul. 2019
- Invited at Micro/Nano Satellite Workshop, the Korean Society for Aeronautical & Space Sciences, Jun. 2019
- Invited at AI & Dronebot Conference, Army Training and Doctrine Command and Korea Advanced Institute of Science and Technology, Apr. 2019

PROFESSIONAL TRAINING

Aug. 2018 – Mar. 2019	Army Intelligence School <i>Military Intelligence Officer's Advanced Course</i>	Icheon, South Korea
	<ul style="list-style-type: none"> • Graduated with honor, awarded by the Commander of Training and Doctrine Command (3-Star General) • Led 26 army captains as the class president 	
Sep. 2012 – Mar. 2013	Korea Defense Language Institute <i>Military English Course</i>	Icheon, South Korea
Aug. 2011 – Dec. 2011	Army Intelligence School <i>Military Intelligence Officer's Basic Course</i>	Icheon, South Korea
Mar. 2010 – Jun. 2010	Army Infantry School <i>Officer's Basic Course</i>	Jangsung, South Korea
	<ul style="list-style-type: none"> • Graduated with honor, awarded by the Commander of Army Infantry School (2-Star General) 	

HONORS, AWARDS, AND RECOGNITION

Scholarship

- **Full academic scholarship for Ph.D. degree by R.O.K. MND, 2020-2023**
- Full academic scholarship for M.S. degree by R.O.K. MND, 2014-2016

Academic / Research / Teaching Excellence

- Academic Honor in Officer's Advanced Course, by the Commander of Training and Doctrine Command, 2019
- Two Best Paper Awards, by the Superintendent of KAAAY, 2017 and 2018
- Outstanding Professor Award for Spring 2018, by the Superintendent of KAAAY, 2018
- Academic Honor in Officer's Basic Course, by the Commander of Army Infantry School, 2010
- Two Academic Honors, by the Superintendent of KMA, Spring 2007 and Fall 2009

Leadership

- Best Member of School Award, by the Superintendent of KAAAY, 2017

- Award for excellent contribution in cadet education, by the commandant of cadets, 2017
- Best Platoon Leader Award, by the 63rd Regiment Commander, 2011
- Best Instructor in Recruit Training Award, by the 21st Division Commander, 2010
- Award for excellent performance in Army battle command training, by the 1st Battalion Commander, 63rd Regiment, 2010

Professional Excellence

- Award for excellent performance in English speaking competition, by the Superintendent of KAAAY, 2017
- Award for best performance in rifle shooting, by the Superintendent of KAAAY, 2017
- Award for excellent performance in security inspection by Defense Security Command, by the 55th Division Commander, 2013
- Award for excellent contribution in Capital Corps' contest of presentation, by the 55th Division Commander, 2013
- Award for excellent achievement in intelligence operation, by the 9th Division Commander, 2013
- Award for excellent contribution in recruit ceremony, by the 63rd Regiment Commander, 2011
- Honor in 3rd Corps' contest of operating crypto equipment, by the 3rd Corps Commander, 2011
- Award for excellent performance in the parachute jump course, by the Special Warfare Forces Commander, 2007

SKILLS AND NOTABLES

- Technical Skills; MATLAB / Simulink (Advanced), Python (Advanced), C++ (Intermediate)
- Language; Korean (Native), English (Advanced), Japanese (Intermediate)
- Others; Certificate of Parachute Jump for Air Assault, Taekwondo (Black Belt), Scuba Diving