Jaemin Eom – Curriculum Vitae

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| Biorobotics Laboratory / Soft Robotics Research Center | phone: +82-10-3036-4967 |
| Department of Mechanical Engineering | email: jaemineom@snu.ac.kr |
| Seoul National University |  |
| Bldg. 301, Rm. 219, Gwanak Ro 1, Gwanak Gu, Seoul, Korea |  |

**Research Interests**

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| * Robotic Grippers | * Soft Robots | * Bio-inspired Robots | * Soft Morphing Structures |

Education

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| Sep. 2017 -  Current | **Ph.D. and M.S. Integrated Course, Mechanical Engineering** (GPA : 3.77/4.3)  Seoul National University, Seoul, Korea  Advisor: Prof. Kyu-Jin Cho |
| Mar. 2013 - Aug. 2017 | **Bachelor in Mechanical engineering** (GPA : 3.92/4.3)  Seoul National University, Seoul, Korea |

**Research Experience**

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| Jan. 2018 - Dec. 2020 | **Development of modular gripper for small quantity production process**  Funded by *Korea Institute of Machinery & Materials*   * Principal investigator of research project * Controlled the developed soft gripper using ROS communication * Developed a customized soft gripper with task specific designs |
| Sep. 2017 - May 2020 | **Development of fundamental technology of soft robotics for advanced soft grippers**  Funded by *Ministry of Trade, Industry & Energy*   * Principal investigator of research project * Developed pneumatically actuated soft gripper for various objects, especially e-commerce * Controlled the developed soft gripper using ROS communication * Benchmarked the Amazon Picking Challenge to analyze feasibility of gripper |
| Jan. 2020 – Dec. 2022 | **Development of a collaborative assistive robot arm utilizing foldable soft robot technology**  Funded by *Ministry of Trade, Industry & Energy*   * Integrated the developed foldable gripper and the developed robotic arm |

**PUBLICATIONS**

**International Journal, 3 Paper (First author: 1 Paper, Second author: 2 Papers)**

1. Yuna Yoo, **Jaemin Eom**, MinJo Park, and Kyu-Jin Cho, "Compliant Suction Gripper with Seamless Deployment and Retraction for Robust Picking against Depth and Tilt Errors," IEEE Robotics and Automation Letters, vol.8, no.3, 2023. (Co-first author)
2. Jun-Young Lee, **Jaemin Eom**, Sung Yol Yu, and Kyu-Jin Cho, “Customization Methodology for Conformable Grasping Posture of Soft Grippers by Stiffness Patterning,” Front. Robot. AI, vol. 7, 2020, doi: 10.3389/frobt.2020.00114.
3. Woongbae Kim, **Jaemin Eom**, and Kyu-Jin Cho†, "A Dual-Origami Design that Enables the Quasisequential Deployment and Bending Motion of Soft Robots and Grippers," Advanced Intelligent Systems, vol. 4, no. 3, 2021.

**Journals in Preparation, 1 Papers (First author: 1 paper)**

1. **Jaemin Eom**, Sung Yol Yu, Woongbae Kim and Kyu-Jin Cho, “Multi-Object Gripper with Individual Object Handling Capabilities,” in preparation

**International Conferences, 2 Papers (First author: 1 paper, Second author: 1 paper)**

1. Jun-Young Lee, **Jaemin Eom**, Woo-Young Choi and Kyu-Jin Cho, “Soft LEGO: Bottom-up Design Platform for Soft Robotics,” *2018 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2018, pp. 7513-7520, doi: 10.1109/IROS.2018.8593546.
2. **Jaemin Eom**, Woo-Young Choi, Woongbae Kim, Jae-Ryeong Choi and Kyu-Jin Cho, “Design Methodologies for Tendon Driven Soft Gripper,” *2018 Emerging Technologies in Mechanical Engineering (ETME 2018)*, 2018.

**Patents (Registered: 3 patents)**

1. Jun-Young Lee, **Jaemin Eom**, and Kyu-Jin Cho, “Soft Block Unit Comprising Expanding Block and Bending Block,” **JP Patent** 6620257 issued Nov. 22th, 2019. (Application Serial Number 2019-082506 filed on Apr. 24th, 2019).
2. Jun-Young Lee, **Jaemin Eom**, and Kyu-Jin Cho, “Soft Block Unit Comprising Expanding Block and Bending Block,” KR Patent 101950654 issued Apr. 14th, 2019. (Application Serial Number 10-2018-0167641 filed on Dec. 21th, 2018).
3. **Jaemin Eom**, Sung Yol Yu, Woongbae Kim and Kyu-Jin Cho, “Multi-Object Gripper with Internal Storage,” KR Patent 2497956 issued Feb. 6th, 2023. (Application Serial Number 10-2021-0165436 filed on Nov. 26th, 2021).

Honor and Awards

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| Apr. 2021  Nov. 2020 | 1st prize winner, RoboSoft 2021 Manipulation Challenge, IEEE International Conference on Soft Robotics  Silver Prize, 5th KSME-SEMES Open Innovation Challenge, Young Engineers Group |
| Dec. 2019 | Silver Prize, 4th KSME-SEMES Open Innovation Challenge, Young Engineers Group |
| Apr. 2019  Feb. 2019 | 3rd prize winner, RoboSoft 2019 Manipulation Challenge, IEEE International Conference on Soft Robotics  Bronze Prize, 25th SAMSUNG Humantech Paper Award |

**Teaching Experience**

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| Teaching Assistant  (Sep. 2019 - Dec. 2019)  Teaching Assistant  (Mar. 2018 - Jun. 2018) | **Dynamics (M2794.001200)**  Seoul National University  *Supervisor : Prof. Kyu-Jin Cho*  **Management in Mechanical Engineering 1 (M2794.004500)**  Seoul National University  *Supervisor : Prof. Young-sang Yoo* |