Junsung Park

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Google Scholar LinkedIn GitHub Hugging Face

EDUCATION

- **University of California, San Diego** — La Jolla, CA, USA
  Exchange Student, GPA: 4.0/4.0 — *Jan 2026 ~ June 2026*
  - **Relevant Coursework:** Planning and Learning in Robotics (Graduate, A), Linear Control System Theory (A), Engineering Probability and Statistics (A+).
  - Tuition and stipend fully covered by the Korea-U.S. Student Exchange Program Scholarship.
- **Seoul National University** — Seoul, South Korea
  B.S. in Electrical and Computer Engineering, Summa cum laude, GPA: 3.89/4.0 — *Mar 2020 ~ Feb 2027*
  - **Minor:** Mechanical Engineering.
  - **Relevant Coursework:** Robot Learning (Graduate, A+), Mechanical System Modeling and Control (A+), Introduction to Robotics (A+), Fundamentals of Control Engineering (A+), Mechatronics (A+).
  - Tuition and stipend fully covered by the Silla Scholarship Foundation.
  - Military leave of absence for 2 academic years (Feb 2022 ~ Nov 2023).
- **Daejeon Science High School for the Gifted** — Daejeon, South Korea
  Graduated with Honors; Specialized Curriculum in Mathematics and Physics — *Mar 2017 ~ Feb 2020*

PUBLICATIONS

[1] **Junsung Park**[*], Sachin Bhadang[*], Carmelo Sferrazza, Sha Yi, and Xiaolong Wang. TACTX: Learning Shared Tactile Representations Across Diverse Sensors. **CoRL, 2026.**

[2] **Junsung Park**, Hogun Kee, and Songhwai Oh. Modality-Augmented Fine-Tuning of Foundation Robot Policies for Cross Embodiment Manipulation on GR1 and G1. **RSS, 2026**, Workshop on Tactile Sensing for Robotic Foundation Models.

[3] **Junsung Park**. BiCQL-ML: A Bi-Level Conservative Q-Learning Framework for Inverse Reinforcement Learning. **IEEE MIT URTC, 2025.**

[4] Anya Zorin, Zilin Si, Myungsun Park, **Junsung Park**, Alexiy Buynitsky, Sachin Bhadang, Taejun Park, Sohee John Yoon, Yong-Lae Park, Oliver Kroemer, Zeynep Temel, Michael T. Tolley, Sha Yi, and Xiaolong Wang. TacO: Benchmarking Tactile Sensors for Object Manipulation. Preprint, 2026.

EXPERIENCE

- **Config**
  Research Intern; Advisor: Prof. Kimin Lee — *July 2026 ~ Present*
  - Researching methods to bridge the human–robot inverse dynamics modeling gap for robot action inference.
- **Wang Lab, UC San Diego**
  Research Intern; Advisor: Prof. Xiaolong Wang — *Jan 2026 ~ June 2026*
  - Developed a **sensor-agnostic tactile representation learning framework** for zero-shot policy transfer across heterogeneous tactile sensors.
  - Contributed to a **tactile sensing benchmark** for robotic manipulation, evaluating diverse sensors across complex contact-rich tasks.
- **Robot Learning Lab (RL LAB)**
  Research Intern; Advisor: Prof. Songhwai Oh — *Jan 2025 ~ Dec 2025*
  - Pioneered **modality-augmented VLA diffusion policies** for the **Unitree G1**, creating a **multi-modal dataset** that improved manipulation success from 48% to 94% via force integration; open-sourced the dataset on Hugging Face.
  - Engineered a **whole-body motion retargeting** pipeline converting the OMOMO dataset to robot kinematics, facilitating large-scale **imitation learning** of human interactions.
- **Robotics Laboratory**
  Research Intern; Advisor: Prof. Frank Chongwoo Park — *June 2025 ~ Dec 2025*
  - Developed and fine-tuned **vision-language-action models** by collecting demonstration data with the **Franka Emika Panda** and adapting the π_0 model for real-world policy transfer.
  - Developed and evaluated a **contact-adaptive denoising schedule** for **diffusion-based VLA policies**, adapting diffusion noise across approach and contact phases to improve grasp stability and contact-rich manipulation robustness.
- **Soft Robotics and Bionics Lab**
  Research Intern; Advisor: Prof. Yong Lae Park — *June 2024 ~ Dec 2024*

- Designed and prototyped a **wearable rehabilitation glove** integrating **Twisted String Actuators** and an **e-gain soft sensor** for assisted hand motion.
- Developed and integrated a motor-control architecture for real-time finger strain detection, enhanced by **IMU-based feedback control** to enable adaptive and **closed-loop motion regulation**.

CONFERENCE PRESENTATIONS

- **2025 IEEE MIT URTC** Boston, MA, USA
  Poster Presentation *Oct 2025*
  - *"BiCQL-ML: A Bi-Level Conservative Q-Learning Framework for Inverse Reinforcement Learning."*
- **2025 ICCE-ASIA** Busan, South Korea
  Poster Presentation *Oct 2025*
  - *"BiCQL-ML: A Bi-Level Conservative Q-Learning Framework for Inverse Reinforcement Learning."*
- **2024 SRRC Workshop** Seoul, South Korea
  Poster Presentation *Feb 2025*
  - *"Design and Implementation of a TSA-Driven Opposition Assist Glove with Integrated Soft Sensors."*
  - Presented a wearable rehabilitation glove integrating a rack-and-pinion actuator, e-gain soft sensor, and IMU-based feedback control for adaptive hand-motion assistance.

AWARDS AND HONORS

- **Travel Award, Conference on Robot Learning (CoRL)** *Oct 2026*
  - Awarded complimentary registration, hotel accommodation, and a $500 travel stipend to attend CoRL 2026.
- **Gold Prize, SNU Creative Design Fair (out of 75 teams)** *Sep 2025*
  - Awarded a $1,000 prize and $4,000 in international conference support.
  - Developed and validated a novel offline IRL reward-inference method through predictive-consistency evaluation on MuJoCo continuous-control benchmarks without online RL.
- **3rd Prize, Mechatronics Design Competition (out of 25 teams)** *June 2024*
  - Awarded a $500 prize.
  - Recognized for developing an innovative mechatronic system integrating mechanical design and control algorithms.
- **Korea-U.S. Student Exchange Program Scholarship** *Nov 2025*
  - Recognized for excellence in intelligent robotics research; awarded $9,000 for outstanding academic and interdisciplinary achievement in AI-driven communication and control systems.
- **Semiconductor Track Scholarship** *Jan 2025 ~ Present*
  - Recognized for excellence in interdisciplinary studies; awarded $4,300 to date, with $10,000 to be awarded upon graduation.
- **Shilla Cultural Scholarship Foundation Scholarship** *Mar 2021 ~ Present*
  - Awarded full tuition coverage until graduation, recognizing academic excellence.

TEACHING AND MENTORING

- **Seoul National University** Seoul, South Korea
  Peer Tutor, 430.216: Linear Algebra for Electrical Systems *Sep 2026 ~ Dec 2026*
  - Tutored undergraduate students in linear algebra, explaining key concepts and guiding them through practice problems.

EXTRA CURRICULAR

- **SNU BUDDY (Cultural Exchange Organization for Exchange Students)** *Aug 2025 ~ Dec 2025*
  - Facilitated cultural exchange by introducing Korean culture and campus life to international exchange students.
- **Gongsang (SNU College of Engineering Student Reporters)** *Mar 2021 ~ Dec 2024*
  - Promoted STEM via web magazines on daily engineering, faculty insights, and engineering disciplines.
  - Mentored high school students and supported outreach activities at the SNU Youth Engineering Frontier Camp.

PROGRAMMING SKILLS

- **Languages:** Korean (Native), English (Fluent)
- **Technologies:** Python, C++, MuJoCo, Isaac Sim, Isaac Gym, RoboSuite, MATLAB, Fusion 360, Simulink, Verilog