Sooyong Shin

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Interest

I am interested in **Computer Vision Systems** for **Robot Perception**, with a particular focus on **6D pose estimation** for robotic manipulation. Also interested in **Vision–Language Navigation**, leveraging **Multimodal Models** for more intuitive and efficient communication.

Currently, I am a research intern at the **Urban Robotics Lab**, where I am conducting research on **6D pose estimation** while continuously expanding my knowledge across broader areas in robotics.

Keywords: Robotics, 6D Pose Estimation, Vision–Language Models, Visual SLAM

Education

Korea Advanced Institute of Science and Technology	*Daejeon, South Korea*
Bachelor of Science, Electrical Engineering, and Computer Science	*Feb 2018 – Present*

Research Experience

Urban Robotics Lab (URL) (Supervisor: Hyun MYUNG) — KAIST, *Daejeon, South Korea*

Research Intern — *June 2025 – Present*
- Research on **6D pose estimation**

Individual Study — *Mar 2025 – June 2025*
- Studying ROS and Visual SLAM

SIIT Lab (Supervisor: Junmo Kim) — KAIST, *Daejeon, South Korea*

Individual Study — *Jul 2024 – Aug 2024*
- Studying Vision Language Multimodal

Work Experience

KC-ML2 — *Seoul, South Korea*

Research Intern — *Aug 2024 – Feb 2025*
- Research on **Relocalization for Robot Mapping**
- Focused on **Text-based Failure Recovery** in Monocular **Visual SLAM**
- Manuscript in preparation. **First author** work conducted during the internship at **KC-ML2** (2024–2025).
- Skills: C++, Python, ORB SLAM, YOLO, paddle OCR

Bookend — *Daejeon, South Korea*

Software Engineer — *May 2023 – Aug 2024*
- Developed **Sentensify** 🔗 (chrome webstore 🔗), a multilingual AI writing and paraphrasing tool leveraging various **Large Language Models**
- Role: Full-Stack Engineer
- Skills: JavaScript(React), Python(FastAPI), MongoDB, ChatGPT API

Software Engineering Intern — *Dec 2022 – Feb 2023*
- Developed **TYPHERE**, a writer-publisher **mobile platform** designed to streamline and enhance the book publishing process
- Role: Front-End Engineer
- Skills: JavaScript(React-Native)

Projects

KAIST Swimming Team KAORI Webpage   *2024*

- ○ Developed a webpage to archive swimming records and member information, enabling analysis of performance trends and data distribution (www.kaist-kaori.org ↗)
- ○ Role: Full-Stack developer
- ○ Skills: JavaScript(React), Python(Fast API), MongoDB

Skills

ML/DL: PyTorch

Robotics: ROS, Visual SLAM (ORB-SLAM)

Programming: Python, C++, JavaScript(TypeScript)

Database: MongoDB, SQL

others: React/React-Native, FastAPI, Jira, Confluence

Leadership Experience

KAIST MR(Microbot Research)   *Daejeon, South Korea*
member ↗   *Mar 2025 – Present*

AI Robotics KR   *South Korea*
Community Manager ↗   *Oct 2024 – Present*

Republic of Korea Army   *Paju, South Korea*
Sergeant, honorable discharge   *Mar 2019 – Nov 2020*

Korean Red Cross Lifeguard   *Daejeon, South Korea*
                                                                                          Aug 2018 – Present

KASIT Swimming Team KAORI   *Daejeon, South Korea*
Senior member   *Mar 2018 – Present*
President of KAORI   *2022*
Chairman of KAIST Swimming Competition   *2023*