

Mr. Young-woon Song

Embedded Systems & Robotics Engineer
Ph.D. Candidate at POSTECH

📅 24 Jan 1997

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📍 Korea → Munich

🇰🇷 Korean (South)

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For more information, please refer to the indicated page numbers (📄#) in my portfolio

Education

📄8-9

Sep 2019 – Aug 2026 (Expected)

Pohang University of Science and Technology (POSTECH), South Korea

Ph.D. Candidate in Convergence IT Engineering Integrated M.Sc.–Ph.D. Programme

Mar 2015 – Aug 2019

Pohang University of Science and Technology (POSTECH), South Korea

B.Sc. in Creative IT Engineering

Aug 2015 – Dec 2015

Stony Brook University, New York, USA

Exchange Programme

Jun 2015 – Jul 2015

Rhode Island School of Design (RISD)

Exchange Programme (The Netherlands)

Mar 2012 – Feb 2015

Daegu Science High School, School for the Gifted, South Korea

Patents

📄16-19

- Bicycle Robot Capable of Controlling Steering and Balance (2020)
- Crack Detection System for Nuclear Power Plant Containment Vessel (2025)
- Modular Wall-Climbing Robot System and Obstacle Avoidance Locomotion (2025)

... and 9 more domestic patents

Languages

📄18-19

	A1	B1	C1
Korean	●	●	●
English	●	●	●
Greek	●	●	●
Japanese	●	●	●
German	●	●	●

Experience

📄10-11

Aug 2024 – Sep 2024

University of Tokyo (UTokyo), Japan

Graduate School of Engineering, International Internship Student Trainee

Aug 2016 – Feb 2017

Helmholtz Zentrum München (Helmholtz Munich), Germany 🇩🇪

Institute of Biological and Medical Imaging (IBMI), Research Internship

Skills

📄20-26

Hard Skills

Embedded HW Design

Embedded SW Development

Schematic Design

PCB Layout

Communication Protocols

Motor Control

Robot Control

Mechanical Design / CAD

UI/UX Design

Server/Network Management

Full-Stack Development

iOS/Android App Development

Tech Stack

OrCAD

STM32

RTOS

C

C++

SolidWorks

Node.js

ROS/ROS 2

HTML/CSS/Javascript

Python

OpenCV

Flask

MySQL

PHP

Kotlin

Swift

Qt/QML

Honours and Awards

📄10-13

- Presidential Award (Grand Prize) – The 59th National Science Fair of Korea
- Third Place Award – Intel International Science and Engineering Fair (ISEF)
- Third Prize – NEA NEST Awards Event (at OECD Headquarters, Paris)
- Grand Prize (Minister's Award) – ICT Creative Consilience Programme
- Gold Award (Minister's Award) – National Student Science Invention Contest

... and more

Personal/Research Projects

📄27-79

- Autonomous Bicycle (2017–2019) 📄48-55
- Weather Monitoring System (POSTECH Weather Station) (2012–2023) 📄28-37
- Earthquake Monitoring System (POSTECH Seismometer) (2018–2022) 📄38-41
- In-Car Infotainment System (2021–2023) 📄42-45
- Underwater Robot for Nuclear Power Plant (2025–2026) 📄72-75

... and more