

Joonhyung Lee

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Education

Korea University

M.S. in Artificial Intelligence
Advisor: [Sungjoon Choi](#)

Sep. 2022 ~ Present
GPA: 4.11/4.5

Korea University

B.S. in Electro-Mechanical Systems and Engineering
Advisor: [Hyunhwan Jeong](#)

Mar. 2018 ~ Feb. 2022
GPA: 4.11/4.5 (cumulative) 4.3/4.5 (major)

Research Experience

Machine Decision Intelligence & Learning Lab | KAIST (Prof. Donghwan Lee)

Jan. 2022 - Jun. 2022

Research Intern

Python, Reinforcement Learning, ROS, PyTorch

- Study the basic theory of Reinforcement Learning
- Implemented DQN, PPO, SAC, DDPG to solve a custom environment in OpenAI Gym, achieving 10% improvement over baselines.
- Solve robotics tasks: Manipulator Motion Planning and Navigation.

Human-oriented Robot System & Control Lab | Korea Univ. (Prof. Hyunhwan Jeong)

Sep. 2019 - Feb. 2021

Undergraduate Research Student

C/C++, Control, Robotics, ROS, GitHub

- Participated in projects on robotics, computer vision,
 - Robotics: 3 DOF Robot Arm Manipulation Motion planning
 - Computer Vision: Color-based object position tracking via Kalman Filter
- Gave poster presentation on Visual serving control robot arm-gripper system at 7th Korea University EMSE Student Academic Conference (The most excellent prize)

KUCIRA | Student Club

Mar. 2018 - Feb. 2021

Undergraduate Research Club

C/C++, Control, Robotics, ROS, GitHub

- Participated in projects on robot programming, H/W design
 - Robot programming: Implemented Robot Programming
 - H/W Design: Design Mobile Robot and Robot Arm-gripper
- Gave poster presentation on "Rescue Smart Car" at 7th Korea University EMSE Student Academic Conference (The excellent prize)

Experience

Meta & Major League Hacking

Oct. 2023 - Present

Software Engineer Fellow

Python, Flask, Git, GitHub

- Contributing to Meta's AudioCraft, a Generative AI project focused on processing, generation, and autocompletion.
- Creating a Python command-line interface extension with text and audio input validation, to facilitate high-fidelity audio generation for sounds and music.

Meta & Major League Hacking

Jun. 2023 - Sep. 2023

Site Reliability Engineer Fellow

Python, Bash, MySQL, Flask, HTML, Git, GitHub, Docker, Linux

- Developed a website on Flask with Jinja, MySQL and a professional Git/GitHub workflow.
- Automated CI/CD pipelines for unit and integration testing, as well as the deployment the web app, database and Nginx using Docker Compose, GitHub Actions and scripting.

Universal Scientific Industrial Co., Ltd.

Mar. 2023 - Jun. 2023

Software Engineering Intern

PHP, JavaScript, SQL Server, HTML, CSS, Bootstrap, jQuery

- Handled overtime requests and approvals for 2,000+ employees by developing internal back-end systems with PHP.
- Displayed graphs and logs in web interfaces of 6,000+ monthly requests using HTML, JavaScript, and Bootstrap.
- Reduced reports loading times from 10 to 3 seconds, enhancing SQL queries by up to 60%.

Projects

MySpoti

Jul. 2023 - Ongoing

Personalized Spotify tops and insights web application

Python, JavaScript, HTML, Flask, Bootstrap, Git

- Showcasing user's Spotify top tracks, insights and listening history through visualizations in HTML.
- Integrating Spotify's OAuth2, API scopes and endpoints to access user's data for further process with Flask.

AIWay

Sep. 2022

HACKMTY project to create reports and represent them on a map

Python, JavaScript, HTML, Django, Git

- Developed a real-time traffic and security alert visualization crowdsourced web page using Google Maps API, featuring heat maps for data representation.
- Led the back-end team using Python and Django to build a WhatsApp bot with Twilio. The bot processed user reports with OpenAI's GPT-3 API for classification of relevant information.

Leadership and Volunteering

Students' Association.

Jun. 2023 - Ongoing

Council President

- Guiding a community of 400+ EMSE students in their professional development, technical skills and interest in tech.
- Orchestrating workshops, coding sessions, and events to enhance skills and encourage continuous learning.

Skills

Languages:

Python, C/C++, Matlab

Technologies & Tools:

MuJoCo, Git, Linux, ROS, Docker, AVR

Robots:

UR5e, Franka Panda, Aimbot (ROBOTIS)

Controller Hardware:

Arduino, ATmega128, Raspberry PI, Jetson Nano