Jinwoo Park

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Professional Summary

Machine Learning Engineer and Software Developer with a proven record of delivering scalable AI solutions and robust backend systems for global services. Expert in designing and deploying advanced ML frameworks, model serving infrastructure, and distributed systems—driving measurable business impact and leading the full lifecycle of data-driven products. Passionate open-source contributor recognized for launching high-growth AI products and bridging research with real-world applications.

Skills

- **Programming:** Python, Golang, C/C++, Erlang
- **Machine Learning Frameworks:** PyTorch, Diffusers, ComfyUI, Kohya
- **Backend**: Traefik, Authentik, FastAPI, Echo
- **Model Serving Frameworks**: Triton Inference Server, BentoML
- **Testing & Monitoring**: Locust, Prometheus, Grafana, Promtail, Loki
- **Infrastructure & DevOps**: Docker, Kubernetes (k8s), K3S, Helm, ArgoCD, Harbor

ML Engineer Experience

Aug 2023 - present — **SNOW Corporation (Seongnam)**

- Launched “ID Photo” service with upgraded text-to-image personalization method, achieving a 440% increase in purchases over the previous product (AI Business Profile).
- Built a Kubernetes-based GPU cluster, enabling non-engineers to develop content with minimal engineering effort.
- Researched and developed core technologies for image edits, significantly improving output quality while reducing inference time to one-tenth of the previous solution.

Jan 2022 - Jul 2023 — **Annotation-AI (Seoul)**

- Optimized Segment Anything inference by 80% (from 1024 to 200 calls), enabling real-time operation on CPUs.
- Designed and deployed model serving and CI/CD systems.

Oct 2020 - Jan 2022 — **MakinaRocks (Seoul)**

- Led GNN/RL-based FPGA/ASIC placement optimization, achieved performance (WNS +0.7%) on par with ICC2AutoPlacement and HumanPlacement for a single-core CPU design with 18 macros and 120,000 cells and nets. (presented at Deview 2021)

Sep 2019 - Oct 2020 — **J.MARPLE (Seoul)**

- Researched and developed model compression and model predictive control methods for non-linear dynamical systems.
- Secured 1st place in the model compression track of the AI Grand Challenge 2020, winning a prize of 200 million KRW.

Nov 2018 - Aug 2019 — **Medipixel (Seoul)**

- Led the guide-wire control automation project for PCI (Percutaneous Coronary Intervention), developing and applying off-policy reinforcement learning and behavior cloning algorithms.
- Self-developed Rainbow IQN RL algorithm, achieving SOTA performance and open-sourced. (GitHub: medipixel/rl_algorithm)

SW Developer Experience

Oct 2014 - Jan 2017 — **Ericsson (Anyang)**

- Developed and tested LTE RBS L3 features such as Mobility and Load Balancing.
- Improved memory usage by over 20% through enhancements in UE Context reference methods in L3.
- Recognized as a specialist in L3 test automation at the Korea R&D center and gained experience with world-class CI/CD and collaboration systems.

Nov 2013 - May 2014 — **Smilegate (Seongnam)**

- Developed distributed load testing tool, enabling rapid incident response for global services.

Education

2006 - 2014 — **Bachelor’s Degree, Computer Science**; Dongguk University (Seoul)

- Teaching Assistant, Research Assistant in Visual Simulation Lab, Honors student for years.

OpenSource

Active contributor and creator of widely adopted open-source projects in reinforcement learning, model serving, and computer vision.

- **rainbow-is-all-you-need** ★**1.9k+** Creator; comprehensive RL tutorial, adopted by practitioners and educators globally.
- **pg-is-all-you-need** ★**900+** Co-creator; accessible guide to Policy Gradient methods, referenced in academic courses.
- **rl_algorithms** ★**500+** Lead developer; implemented self-developed Rainbow IQN, achieving SOTA results and community recognition.
- **segment-anything-with-clip** ★**300+** Creator; an advanced resource combining segmentation with CLIP, offering practitioners versatile segmentation tools.
- **model_compression** ★**200+** Contributor; efficient model compression algorithms for embedded systems.

Additional Contributions: PyTorch, Huggingface, BentoML, KServe, GoCV, PyG, and more.

Publications

Dec 2021 — **Deep Reinforcement Learning for Guidewire Navigation in Coronary Artery Phantom**; IEEE Access

Jihoon Kweon; Kyunghwan Kim; Chaehyuk Lee; Hwi Kwon; Jinwoo Park; Kyoseok Song

- Proposed and validated a deep reinforcement learning approach for autonomous guidewire navigation in coronary artery models, demonstrating improved precision and safety for medical robotics applications.

Patents

Dec 2022 — **[1] METHOD FOR AUTOMATING SEMICONDUCTOR DESIGN BASED ON ARTIFITIAL INTELLIGENCE**; 1024748560000

Jinwoo Park; Tod Myung; Jiyoon Lim; Kyeongmin Woo

- Invented an AI-driven method to automate and optimize semiconductor design processes, enhancing design efficiency and reducing manual intervention.

Jul 2022 — **[2] METHOD FOR AUTOMATING SEMICONDUCTOR DESIGN BASED ON ARTIFITIAL INTELLIGENCE**; 1024200710000

Jinwoo Park; Tod Myung; Jiyoon Lim; Kyeongmin Woo

- Developed a novel artificial intelligence solution for automating key stages in semiconductor design, enabling faster and more reliable chip development.