

히형록 | Hyeongrok Heo

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HIGHLIGHTS

- ◆ More than 2 years of hands-on experience in Python, Flask based Web/API service back-end development
- ◆ More than 4 years of Python based back-end development
- ◆ At Autosemantics Inc, core project Boltzmann development team leader
- ◆ Top 4% rating at acmicpc.net
- ◆ Founded Volunteer Organization for Software Education & Founded startup company (Software Education), Hardware-Software end-to-end educator

EDUCATION

Pusan National University, Busan **2018.03 – 2020.02**

- ◆ Master of Computer Science Engineering CGPA: 3.94/4.50
- ◆ Research Assistant at Intelligent System Laboratory, Python, Machine Learning, Genetic Algorithm based Schedule Optimization Project
- ◆ KINTEX (in Ilsan) - HVAC Scheduling/Control Automation, Anomaly Detection Project
- ◆ TAEWOONG (in Busan) – Development simpy/ML based Forge Factory Simulator, Schedule Optimization Project

Pusan National University, Busan **2014.03 – 2018.02**

- ◆ Bachelor of Computer Science Engineering CGPA: 3.34/4.50

PROFESSIONAL EXPERIENCE

Autosemantics Inc. **2020.02 – 2022.03**

- ◆ Industrial Artificial Intelligence Solution development company **Senior Researcher**
- ◆ SVMS Project **2020.02 – 2020.07**
 - Samsung Vibration Management System DAQ outsourcing project
 - With BeagleBone Black Board, development DAQ
 - With previously written low-level acceleration collection library, Python Flask based Web service full-stack development
 - Development Socket, plotly.js based real-time sensor-data UI
 - Development API for data collection/management
- ◆ Boltzmann Project **2020.06 – 2022.01**
 - Development Binding Energy Management System Solution

- At the beginning of the project, design system architecture, served as Project Leader
- BACnet protocol prior research / development middleware library of it
- Development crawling module correspond to unstructured environment (unknown building)
- Development Python Flask based Web UI back-end
- Deployment AI system at more than 5 building and build slack monitoring system
- Deployment at SHINSEGAE Department store at Daegu and prove energy saving
- Approved GS Certification (<https://url.kr/fzseqv>)
- Launching solution, Investment attraction, follow-up project linkage (boltzmann.kr)
- ◆ 2021.10 – 2022.01 Osang Healthcare Healthcoach outsourcing project
 - Development customer personal health information management API
 - AWS-EC2 deployment for UI linkage

KodeKorea

2017.09 – 2019.01

- ◆ Software Education Service Company
- ◆ Startup founding member
- ◆ Software curriculum creation
- ◆ MAKERS team management / Lead Hardware-Software end-to-end project
- ◆ SW Lecturer at Busan Metropolitan City Office of Education

Intelligence System Laboratory

2018.03 – 2020.02

- ◆ KINTEX (in Ilsan) - HVAC Scheduling/Control Automation, Anomaly Detection Project
 - Industry-University Cooperation Project with NARA CONTROLS, KINTEX, KETEP
 - BCVTB, Energy Plus, Open Studio based Genetic Algorithm research system configuration
 - Development Python based end-to-end HAVC Automation system
- ◆ TAEWOONG (in Busan) – Development simpy/ML based Forge Factory Simulator, Schedule Optimization Project
 - Industry-University Cooperation Project with TAEWOONG
 - Unstructured raw data parsing to training data
 - Development Machine Learning based forge process time prediction model
 - Development Python, SimPy based event-driven Factory Simulator
 - Searching optimal solution with Genetic Algorithm / Finding Optimized Schedule

PUBLICATIONS

- ◆ Journal
 - Hyeong-rok Heo. Model, GA-based Scheduling Optimization of Heat Treatment Furnaces in Hot Press Forging Factory. Journal at Pusan National University. CSE 2020. 2
- ◆ Conference
 - Hyeong-rok Heo, Se-young Kim, and Kwang-ryel Ryu. "Model-based Scheduling Optimization of Heat Treatment Furnaces in Hot Press Forging Factory." KIPS, 26.2 (2019): 939-941.

SIDE PROJECTS

- ◆ Problem Solving: [BOJ](#) / [BOJ git repo](#) / [solved.ac](#) rated at top 4%
- ◆ Personal Blog: [hhr.kr](#)

TECHNOLOGY STACK

- ◆ Software Development
 - C, C++, Python (Preference), Flask, Django, Django Rest Framework, Docker, Numpy, Pandas, Tensorflow, MySQL, MSSQL, MariaDB, REST API, Socket Communication, BACnet Protocol, HTML, Javascript, Thingsboard
- ◆ Hardware/Embedded System
 - Raspberry Pi, Arduino, BeagleBone Black, etc. (with any sensor, module)
- ◆ OS/VCS/Tools
 - Windows, MacOS, Linux, Ubuntu, Debian, CentOS
 - Git, SourceTree, Notion, Slack, Trello, Discord, Monday.com

INTERESTED IN

- ◆ Python (Flask, Django) based REST API / Back-end development
- ◆ Development related to AI or AWS cloud system
- ◆ Docker / Kubernetes system management

COLLABORATOR & REFERENCE

- ◆ **Kwang-ryel Ryu**
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