

Curriculum Vitae

Hyunho Kim

Personal Information

Nationality: Republic of Korea
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Education

Mar, 2018 - Present	Ph.D. Candidate in Electrical Engineering and Computer Science (GPA: 4.45/4.5) Gwangju Institute of Science and Technology Supervisor: Prof. Hojung Nam
Mar, 2010 - Feb, 2017	B.S. in Computer Science and Electrical Engineering (GPA: 4.0/4.5, Cum Laude) Handong Global University

Work Experience

Apr 2022 - Feb 2023	Visiting Graduate Student University of California, San Diego - Working at Ideker Lab.
Jul, 2012 - Jan, 2015	International Cooperation Service Personnel Korea International Cooperation Agency - Working at Kabutare technical secondary school as an ICT teacher

Research Areas

- ✓ Bioinformatics
(Multi-omics-based AI-related fields, Big data analysis)
- ✓ Computational Methods for Accelerating Drug Discovery
(ADMET property prediction, De novo molecular generation, etc.)
- ✓ Machine Learning and Deep Learning
(Statistical approaches, Multi-modal learning, Graph neural networks, Generative models, etc.)

Publications (Peer Reviewed)

* Corresponding author(s)

Hyunho Kim, Minsu Park, Ingoo Lee, Hojung Nam*. "BayeshERG: a robust, reliable and interpretable deep learning model for predicting hERG channel blockers." *Briefings in Bioinformatics* 23.4 (2022): bbac211.

- [한빛사](#)

Hyunho Kim, Eunyoung Kim, Ingoo Lee, Bongsung Bae, Minsu Park, Hojung Nam*, “Artificial Intelligence in Drug Discovery: A Comprehensive Review of Data-Driven and Machine Learning Approaches”, *Biotechnology and Bioprocess Engineering*, 2020;25(6):895-930.

- The 2023 BBE Best Article Award

Hyunho Kim, Hojung Nam*, “hERG-Att: Self-Attention-Based Deep Neural Network for Predicting hERG Blockers”, *Computational Biology and Chemistry*, 2020 May 19;87:107286.

Conferences/Presentations

2023	<u>Hyunho Kim</u> , Minsu Park, Ingoo Lee, Hojung Nam. “BayeshERG: a robust, reliable and interpretable deep learning model for predicting hERG channel blockers.” BIOINFO 2023, Yeosu, Jeollanam-do, Republic of Korea, Nov 13-15, 2023 (Poster presentation)
2022	<u>Hyunho Kim</u> , Minsu Park, Ingoo Lee, Hojung Nam. “BayeshERG: a robust, reliable and interpretable deep learning model for predicting hERG channel blockers.”, RECOMB 2022, La Jolla, USA, May 22-25, 2022 (Poster presentation)
2020	<u>Hyunho Kim</u> , Hojung Nam, “hERG-Att: Self-Attention-Based Deep Neural Network for Predicting hERG Blockers”, APBC 2020, Seoul, Republic of Korea, Aug 18-20, 2020 (Oral presentation)
2019	<u>Hyunho Kim</u> , Hojung Nam, “hERG-Att: Self-Attention-Based Deep Neural Network for Predicting hERG Blockers”, 3 rd Global Pharma R&D informatics & AI Congress, London, United of Kingdom, Oct 28-29, 2019 (Poster presentation)

Projects

On-going	Mid-career researcher program, Ministry of Science and ICT <u>As a Student Researcher</u> <i>System Development of Predicting Drug Toxicity and Side-effects via Explainable Artificial Intelligence</i> Grant Period: Mar 2020 - Feb 2024 (4 years) Grant Budget: 800 M Won (200M Won per 1 year)
Closed	Bio-Synergy Research Project with Medical Heritage, the Ministry of Scient, ICT and Future Planning <u>As a Student Researcher</u> <i>Developed a virtual human drug response analysis system by integrating and applying experimental data</i> Grant Period: Nov 2017 - Dec 2021 (50 months) Grand Budget: approx. 1,000 M Won (~200 M Won per 1 year) National R&D real challenge program, Korea Institute of Human Resources Development in Science and Technology <u>As a Team Leader</u> <i>Development of AI-based Drug Discovery Accelerating System</i> Grant Period: May 2021 - Nov 2021 (6 months) Grant Budget: 21 M Won

Bio-medical technology development, the Ministry of Scient, ICT and Future Planning
As a Student Researcher
Big Data / Artificial Intelligence-based drug development platform
Grant Period: Jun 2018 - Dec 2019 (2 years)
Grant Budget: 1,000 M Won (500 M Won per 1 year)

Honor and Award

2023	Excellence Prize, 1 st Drug discovery AI Competition, Jump AI 2023 - KRICT Research Director Award Excellent Poster Award, BIOINFO 2023
2020, 2022	Outstanding Ph.D. Student RA Scholarship, GIST
2019, 2022	EECS Best Poster Award, GIST
2018-2023	Full Government Scholarship (Ph.D. program)

Patents

자기주의 기반 심층 신경망 모델을 이용한 hERG 채널 저해제 예측 장치 및 그 방법, 남호정, 김현호,
10-2020-0170011 (출원일자 2020.12.08), 과기정통부 개인연구지원사업(중견연구)

Technical Skills

Programming skills
- Python, Matlab, R

Machine learning and Deep learning skills
- PyTorch, Tensorflow, Scikit-learn, PyG, DGL, HuggingFace, etc.

Data-specific techniques
- RDkit, Cytoscape, etc.

Language

Korean: Native

English: Proficient

Last modified: Feb 2024