

Siun Kim

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EDUCATION

Mar. 2018 ~ Seoul National University Seoul,
Feb. 2023 Graduate School of Convergence Science and Technology Korea

Thesis: Clinica Information Extraction from Unstructured Free-
Text for Pharmacovigilance

Advisor: Howard Lee

Ph.D. in Medicine

GPA: 3.95 / 4.3

Mar. 2013 ~ Seoul National University Seoul,
Feb. 2018 College of Liberal Studies Korea

Thesis: (Biology) The Consideration of the relationship between
cellular senescence and organismal aging / (Anthropology)

Institutional care work and daily life of elderly with dementia:

Focusing on interaction with caregivers in adult day care centers

Advisor: CHANHEE KANG

*B.S. in Liberal Studies: Anthropology and Biology (Summa Cum
laude)*

GPA: 3.98 / 4.3

EXPERIENCE

- Post-doctoral researcher @ Seoul National University Hospital Biomedical Research Institute (2023 March ~ Present, Adviser: Hyung-Jin Yoon)

RESEARCH INTERESTS

- Clinical pharmacology
- Biomedical Natural Language Processing
- Clinical Informatics
- Regulatory science
- ML-based drug development

PUBLICATIONS (SCIE/ESCI)

1. Siun Kim, Yoona Choi, Jung-Hyun Won, Jung Mi Oh, Howard Lee, "An annotated corpus from biomedical articles to construct a drug-food interaction database", *JOURNAL OF BIOMEDICAL INFORMATICS*, (2022)

2. Siun Kim, Hyun A Lee, Seong Bok Jang, Howard Lee, "A population pharmacokinetic-pharmacodynamic model of YH12852, a highly selective 5-hydroxytryptamine 4 receptor agonist, in healthy subjects and patients with functional constipation", *CPT: PHARMACOMETRICS & SYSTEMS PHARMACOLOGY*, (2021)
3. Soohyun Kim, Siun Kim, Howard Lee, "A critical review of the United States regulatory pathways for determining the equivalence of efficacy between CT-P13 and original infliximab (Remicade®).", *DRUG DESIGN DEVELOPMENT AND THERAPY*, (2020)
4. Siun Kim, Taegwan Kang, Tae Kyu Chung, Yoona Choi, Yesol Hong, Kyomin Jung, Howard Lee, "Extraction of Comprehensive Drug Safety Information from Adverse Drug Event Narratives in Spontaneous Reporting System", (*UNDER REVIEW*), (2023)

PUBLICATIONS (CONFERENCE)

1. Kim, S., Won, J.H., Lee, D.S.U., Luo, R., Wu, L., Xia., Yingce, Qin, T. and Lee., H. "Revisiting Machine-Learning based Drug Repurposing: Drug Indications Are Not a Right Prediction Target" In Conference on Health, Inference, and Learning. PMLR, 2023.

PUBLICATIONS (BOOKS)

- Siun Kim, Howard Lee (2019). *The Era of Biologics is Coming*. Young Doc Press.

PROJECTS

- Collaboration research with Microsoft Research Asia: Revisiting and reformulating machine learning-based drug repositioning (DR) using clinical trials database and eligibility criteria information, Microsoft Research Asia, Korea / [Project leading] Reformulating ML-based DR study and engineering text prompts for DR (May. 2022 ~ Present)
- Development of a prospective real-world registry for pediatric acute lymphoblastic leukemia (ALL) using multi-institutional electronic medical records (EHRs), Korea Health Industry Development Institute, Korea / Developing an extraction pipeline that captures key clinical information from CDW EHR data (Mar. 2022 ~ Present)
- Development of natural language processing algorithms for extracting key clinical information from text data of drug adverse events reporting, Ministry of Food and Drug Safety., Korea / [Project leading] Performing task formulation and developing annotation guideline & annotated corpus (Feb. 2021 ~ Feb. 2022)
- Research on drug interaction evaluation using big data and machine learning, Ministry of Food and Drug Safety, Korea / [Subpart leading] Developing NLP models extracting drug-food interaction from biomedical texts (Feb. 2018 ~ Feb. 2022)
- Bacterial Exosome-based Anticancer Therapy: Immunooncology Trigger, Rosetta Exosome, Korea / [Leading Researcher] Developing TPP (Target Product Profile) of REX101 (Mar. 2021 ~ Dec. 2021)
- IDX-1197 development strategy consultation, Idience Co., Ltd, Korea / [Leading researcher] Constructing pre-clinical and clinical databases for approved PARP inhibitors (Oct. 2020 ~ Feb. 2021)

CONFERENCES

1. Siun Kim, Taegwan Kang, TaeKyu Jung, Yoona Choi, Yesol Hong, Kyomin Jung, Howard Lee, "An Annotated Corpus and Natural Language Processing Model for Drug Safety Information Extraction from Free-texts Reporting Adverse Events", 2021 Fall Korean Society of Medical Informatics Conference, Seoul, Korea (Nov. 2021) - Oral

2. Siun Kim, Howard Lee, 임상 정보 추출을 위한 자연어 학습데이터 구축 [튜토리얼 발표], 2021 The Korean Society of Medical Informatics, Yongin, Korea (Nov. 2021)
3. Siun Kim, Hyun A Lee, Seong Bok Jang, Howard Lee, "A Population PK-PD Model of YH12852, a Highly Selective 5-HT₄ Receptor Agonist, in Healthy Subjects and Patients with Functional Constipation", Population Approach Group in Korea, Iksan, Korea (Nov. 2020) - Oral
4. Siun Kim, Hyun A Lee, Seol Ju Moon, Hyounggyoon Yoo, Seong Bok Jang, Howard Lee, "A Population Pharmacokinetic-Pharmacodynamic Model to Characterize the Increase in Gastrointestinal Motility by YH12852, a Highly Selective 5-HT₄ Receptor Agonist, in Healthy Subjects and Patients with Functional Constipation", 2019 AAPS PharmSci 360, San Antonio, United States (Nov. 2019) - Poster
5. Siun Kim, Tae Kyu Jung, BongKi Moon, Jung Mi Oh, Howard Lee, "Development of an Annotation Guideline to Extract Drug-Food Interaction Information for Machine Learning", Korean Society for Clinical Pharmacology and Therapeutics, Yeosu, Korea (Nov. 2019) - Poster

SKILLS AND TECHNIQUES

- Programming: R (intermediate), Python (advanced)
- PK-PD simulation tool: NONMEM (advanced)

AWARDS AND HONORS

- The Best Original Research Article, 1st, The Korean Society of Medical Informatics, Korea (Oct. 2021)
- The Best Article Presentation, 1st, Korean Society for Clinical Pharmacology and Therapeutics, Korea (Nov. 2021)
- Presidential Science Scholarship, Korea Student Aid Foundation, Korea (Mar. 2013 ~ Feb. 2017)