YUNSOO KIM | University College London

(+44)75-8731-6332 | yunsoo.kim.23@ucl.ac.uk | Website | LinkedIn | Google Scholar

EDUCATION

University College London, *London, UK*
PhD in Health Informatics Sep. 2023 – May. 2026 (Thesis submitted; *viva* scheduled 30 April 2026)
Thesis: "Integrating Clinical Expert Knowledge with Multimodal Large Language Models: Applications in Histopathology and Radiology"
Supervisors: Professor Honghan Wu, Dr Adam Levine, Professor Robert Stewart, Dr Nikolas Pontikos

Imperial College London, *London, UK*
M.Sc. in Bioinformatics and Theoretical Systems Biology Oct. 2015 - Sep. 2016
Thesis: "A Clustering-based Short Time Series Analysis Methodology in Omics"
Supervisors: Professor Tim Ebbels, Dr John Pinney, Dr Virginia Fairclough

- Developed a novel network inference methods (differential and co-occurrence)

Case Western Reserve University, *Cleveland, OH*
B.S. with Honors in Systems Biology (Concentration in Bioinformatics, Pre-Health Plan) Sep. 2012 - May. 2015
Honors Thesis: "Assembly of Marama chloroplast from Next-gen sequencing reads"
Supervisor: Professor Christopher Cullis

- A novel inversion in the chloroplast genome of Tylosema *esculentum*: First author paper (Journal of Experimental Botany)

RESEARCH INTEREST

Health informatics researcher specializing in developing advanced multimodal AI models for clinical decision support and biomedical knowledge integration. Experienced in applying computational methods, including large language models, to enhance clinical workflows in radiology, pathology, and biomedical text mining. Passionate about interdisciplinary collaboration and translating AI-driven research into practical solutions that improve patient outcomes and healthcare efficiency.

EMPLOYMENT

University College London – Division of Psychiatry, London, UK Mar. 2026 –
Research Fellow

- Research on large language models for mental health and dementia using large-scale clinical datasets.

LG CHEM, Seoul, South Korea Jul. 2017 – Sep. 2023
Professional (Principal Researcher) Mar. 2022 – Sep. 2023
Specialist (Senior Researcher) Mar. 2019 – Feb. 2022
Associate (Researcher) Jul. 2017 – Feb. 2019x
NLP Group Leader, CTO Artificial Intelligence Project April. 2020 – Sep. 2023

- Led NLP research group (a group of 6 researchers), developing language models for scientific discovery and R&D acceleration
- Developed a BERT-based artificial reading system for research candidate recommendation, successfully adopted in multiple domains (battery, petrochemical, biopolymer)
- Drove adoption of NLP-driven solutions across interdisciplinary research teams, enhancing productivity and discovery

LG AI Research
LG AI Master Program Pilot, Representative Researcher Sep. 2019 – Jan. 2020

- Represented LG Chem in a cross-divisional AI leadership program
- Improved BERT model in biotechnology, especially in Agricultural Biology – Achieved SOTA in 7 BioNLP benchmark datasets

CTO Green Bio Project at LG Chem Jul. 2017 – Mar. 2020

- Developed plant disease recognition and plant disease severity diagnosis with ResNext, EfficientNet ensemble models
- Developed an early allergen and toxin assessment system and a neural network for predicting protein allergenicity/toxicity, improving screening efficiency and safety (First patent).

Military Manpower Administration, South Korea Aug. 2017 – Aug. 2020
Technical Research Personnel, Alternative military service at LG Chem

- Fulfilled mandatory service by advancing AI in biotech as a full-time researcher.

Torrey Pines Co., Ltd., Cheonan, Korea Oct. 2016 – July. 2017

Co-Founder (-Sep. 2023) and CEO.

- Launched *'Bota nouveau'*, Korea's one of the first microbiome-focused hair care cosmetics brand

SELECTED PUBLICATIONS

RadEyeVideo: Enhancing general-domain LVLM for chest X-ray analysis with video representations of eye gaze
First Author *Under review*

IHC-LLMiner: Automated extraction of tumour immunohistochemical profiles from PubMed abstracts using LLMs
First Author *Under review*

HARE: an entity and relation centric evaluation framework for histopathology reports
First Author Conference: EMNLP 2025 Findings

Look & Mark: Leveraging Radiologist Eye Fixations and Bounding boxes in Multimodal LLMs for CXR Report Generation
First Author Conference: ACL 2025 Findings

BioHopR: A Benchmark for Multi-Hop, Multi-Answer Reasoning in Biomedical Domain
First Author Conference: ACL 2025 Findings

Enhancing Human-Computer Interaction in Chest X-ray Analysis using Vision and Language Model with Eye Gaze Patterns
First Author Conference: MICCAI 2024

MedExQA: Medical Question Answering Benchmark with Multiple Explanations
First Author Conference: ACL 2024 BioNLP Workshop

Foundation Model for Biomedical Graphs: Integrating Knowledge Graphs and Protein Structures to Large Language Models
First Author Conference: ACL 2024 Student Research Workshop

Human-in-the-Loop Chest X-Ray Diagnosis: Enhancing Large Multimodal Models with Eye Fixation Inputs
First Author Conference: IJCAI 2024 TAI4H Workshop

Hallucination Benchmark in Medical Visual Question Answering
Co-first Author Conference: ICLR 2024 Tiny Paper (Notable Accept)

Chemical Language Understanding Benchmark
First Author Conference: ACL2023 Industry Track

Journal and Conference Reviewing

IEEE Transactions on Medical Imaging, BMC Medical Informatics and Decision Making, JAMIA Association Open, GigaScience
ICLR2025, MICCAI2025, HealTAC2025, ACL2025 ARR, MICCAI2026, HealTAC2026, ACL2026 ARR

SELECTED PATENTS

Literature Chemical Entity Recognition Method and System through Adjusting Sentence Length in Training Data 2023
Main Inventor Patent Application: KR20240171755A

AI-based Chemical Entity Recognition System and Method 2023
Main Inventor Patent Application: KR20240171756A

Document Classification System and Method Using Entity Group Scores 2022
Main Inventor Patent Application: KR20240168118A

Method to build chemical language model and NLP document analysis system and method applying it 2021
Main Inventor Patent Application: KR20230037335A

Chemical Named Entity Recognition Method and System through Data Preprocessing 2021
Main Inventor Patent Application: KR20230030337A

Protein Toxicity Prediction System and Method Using Artificial Neural Network 2019
Main Inventor Patent Granted: KR102757409B1

SELECTED RESEARCH FUNDING, HONOURS & AWARDS

EPSRC Grant (UKRI2701) – technical lead, £241,070 (~$333,800) 2025 - 2026
Rosetrees Trust Grant (PGS23/100040) – early career researcher lead, £59,907 (~$83,000) 2023 - 2025
UCL Faculty of Population Health Sciences PGR Travel Fund, £650 (~$900) 2024 - 2025
FACT Graduate Scholarship, £5,000 (~$7,000) 2024
ACL SRW Grant, $1,050 2024
Multiple research and innovation awards at LG, including: 2019 – 2022
- LG AWARDS (Best Award given by LG Group Chairman), ~$12,500
- AI Advanced problem-solving School Best Practice Mentor, ~$3,000
- AI/DX Best Practice Award (awarded 3 times); Best Research Report (2 times); AI Organization Manager Award (2 times)
- CEO Excellent R&D Project Award; AI IDEAthon (Applications 1st place); Seoul National University AI Hackathon (1st place)

Case Western Reserve University Scholarship, $40,000 2012 – 2015
Ogelbay Summer Research Grant, ~$5,000 2014

OTHER EXPERIENCE

Teaching Experience, Workshops, Seminars

MICCAI2026 Multimodal Foundational Models for BioMedical Imaging Tutorial Organizer and Speaker	2026
University of Glasgow Data Science AI Tutorial on Multimodal LLMs for Healthcare Organizer and Speaker	2025
MICCAI2025 From Foundational to Multimodal Models for Medical Imaging Tutorial Main Organizer and Speaker	2025
MICCAI2025 Multimodal Large Language Models (MLLMs) in Clinical Practice Workshop Main Organizer	2025
ACL2025 Volunteer	2025
HealTac2025 Tutorial/Workshop Chair	2024 – 2025
UCL Institute of Ophthalmology Guest Lecture on LLMs in Medicine	2024
MICCAI2024 Foundation Models For Medical ImagING Tutorial Main Organizer and Speaker	2024
HealTac2024 Healthcare Text Analytics in the Era of Large Language Models Tutorial Main Organizer and Speaker	2024
UCL MSc student co-supervisor for research project	2023 – 2024
LG Chem Community of Practice for ChatGPT main organizer	2022 – 2023
LG Chem graph neural network model study group lead organizer	2022 – 2023
LG Chem transformer model (NLP) study group main organizer	2021 – 2023
LG Chem Community of Practice for Systems Metabolic Engineering AI main organizer	2022
LG AI Advanced problem-solving School Mentor	2020
LG Chem Internal Python Instructor	2020
LG AI weekly Study Group member, organizer	2019 – 2022
LG Chem Bio Big Data and AI Community of Practice member, organizer	2017 – 2019

Invited Talks, Presentation

EMNLP Poster Presentation	2025
European Congress of Pathology Oral Presentation	2025
ACL Poster Presentation	2025
HealTAC Poster Presentation, Lightning Talk, and Demo	2025
RECOMB Poster Presentation, Lightning Talk	2025
MICCAI Poster Presentation	2024
ACL BioNLP, LPM Workshops Poster Presentation	2024
ACL Student Research Workshop Poster Presentation	2024
IJCAI TAI4H Oral Presentation	2024
Lightning Talk at AI in Pathology: Research Meets Reality at the Alan Turing Institute	2024
UCL Computational Pathology Meetings Invited Talk	2024
HealTAC PhD Thesis Oral Presentation and Poster Presentation	2024
ICLR Tiny Paper Poster Presentation	2024
University College London Institute of Health Informatics Talk on Large Language Model Research in Medicine	2024
University of Edinburgh Clinical NLP Group Talk on Large Language Model Research in Medicine	2023
ACL2023 Industry Track Poster Presentation	2023
LG Chem CTO Digital Transformer talks	2022
LG Chem Platform Technology Workshop talks	2022
LG Chem Platform Technology Artificial Intelligence annual meeting speaker	2021
LG Chem Tech Fair talks	2021
LG DX Fair 2021 speaker	2021
LG Chem Digital Transformation talks	2021
LG Chem CTO Digital Transformer talks speaker	2021
LG Chem Platform Technology Workshop talks speaker	2021
LG Chem Digital Transformation Best Practice talks	2020
LG Academy Digital Transformation talks panelist	2020
LG Housys AI Master talks speaker	2019
LG AI Master talks speaker	2019
LG Chem Green Biology quarterly meeting speaker	2019