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WHO AM I?

- A passionate researcher in Bioinformatics-HCI with a decade of experience in bioinformatics who is on the job market for Summer 2026.
- A community builder who is good at initiating and facilitating collaborations.
- [An academic hybrid](#) with a strong desire to foster [an inclusive interdisciplinary learning environment](#).

EDUCATION

PhD in Bioinformatics, Temple University 2019 - present

Advisor: Dr. Sergei L Kosakovsky Pond

Co-Advisor: Dr. Stephen MacNeil

Dissertation Topic: Harnessing interdisciplinarity in the investigation of nucleotide sequence evolution

MS in Computational Biology, Carnegie Mellon University 2015 - 2016

Relevant Coursework: Computational Genomics, Machine Learning, and Algorithms & Advanced Data Structures

BS in Chemistry, Carnegie Mellon University 2010 - 2013

Relevant Coursework: Principles of Computing, and Modern Analytical Instructions

MAJOR CERTIFICATES

08/2023 **Teaching in Higher Education Certificate** *Temple University - Center for the Advancement of Teaching*

08/2023 **MicroMBA** *University of California, San Diego Extended Studies - Rady School of Management*

PUBLICATION

[C1] **Kim, H.**, Kosakovsky Pond, S. L., MacNeil, S. (2025). Conversations over Clicks: Impact of Chatbots on Information Search in Interdisciplinary Learning. *2025 IEEE Frontiers in Education Conference (FIE)*, 1-9.

doi:TBD

- [FIE 2025](#) [[preprint](#) | [teaser](#)]

[W2] **Kim, H.**, Kosakovsky Pond, S. L., MacNeil, S. (2024). WIP: Identifying Tutorial Affordances for Interdisciplinary Learning Environments. *2024 IEEE Frontiers in Education Conference (FIE)*, 1-5.

doi:[10.1109/FIE61694.2024.10893187](https://doi.org/10.1109/FIE61694.2024.10893187)

- [FIE 2024](#) [[preprint](#) | [slide](#) | [video](#) | [recap](#)]

[W1] **Kim, H.** (2023). Running a summer journal club for an interdisciplinary community: how to maintain engagement when members have disparate prior knowledge. *The Journal for Research and Practice in College Teaching*, 8(2). <https://journals.uc.edu/index.php/jrpct/article/view/8150/6710>

[J7] Huzar, J., **Kim, H.**, Kumar, S., Miura, S. (2022). MOCA for integrated analysis of gene expression and genetic variation in single cells. *Frontiers in Genetics*, 13:831040. doi:[10.3389/fgene.2022.831040](https://doi.org/10.3389/fgene.2022.831040)

[J6] Ding, Y., **Kim, H.**, Madden, K., Loftus, J., Chen, G., Allen, D., Zhang, R., Xu, J., Chen, C., Xu, Y., Tasian, S., Tan, K. (2021). Network Analysis Reveals Synergistic Genetic Dependencies for Rational Combination Therapy in

Philadelphia Chromosome-like Acute Lymphoblastic Leukemia. *Clinical Cancer Research*, 27(18). doi:[10.1158/1078-0432.CCR-21-0553](https://doi.org/10.1158/1078-0432.CCR-21-0553)

[J5] Tarca, A. L., Pataki, B. Á., Romero, R., Sirota, M., Guan, Y., Kutum, R., Gomez-Lopez, N., Done, B., Bhatti, G., Yu, T., Andreoletti, G., Chaiworapongsa, T., **The DREAM Preterm Birth Prediction Challenge Consortium**, Hassan, S. S., Hsu, C., Aghaeepour, N., Stolovitzky, G., Csabai, I., Costello, J. C. (2021). Crowdsourcing assessment of maternal blood multi-omics for predicting gestational age and preterm birth. *Cell Reports Medicine*, 2(6). doi:[10.1016/j.xcrm.2021.100323](https://doi.org/10.1016/j.xcrm.2021.100323)

[J4] Ichikawa, Y., Bruno, V. M., Woolford, C. A., **Kim, H.**, Do, E., Brewer, G., Mitchell, A. P. (2021). Environmentally contingent control of *Candida albicans* cell wall integrity by transcriptional regulator Cup9. *Genetics*, 218(3). doi:[10.1093/genetics/iyab075](https://doi.org/10.1093/genetics/iyab075)

[J3] Tao, Y., Rajaraman, A., Cui, X., Cui, Z., Chen, H., Zhao, Y., Eaton, J., **Kim, H.**, Ma, J., Schwartz, R. (2021). Assessing the Contribution of Tumor Mutational Phenotypes to Cancer Progression Risk. *PLOS Computational Biology*, 17(3). doi:[10.1371/journal.pcbi.1008777](https://doi.org/10.1371/journal.pcbi.1008777)

[J2] He, B., Gao, P., Ding, Y., Chen, C., Chen, G., Chen, C., **Kim, H.**, Tasian, S. K., Hunger, S. P., Tan, K. (2020). Diverse noncoding mutations contribute to deregulation of cis-regulatory landscape in pediatric cancers. *Science Advances*, 6(30). doi:[10.1126/sciadv.aba3064](https://doi.org/10.1126/sciadv.aba3064)

[P1] Tao, Y., Rajaraman, A., Cui, X., Cui, Z., Eaton, J., **Kim, H.**, Ma, J., Schwartz, R. (2019). Improving personalized prediction of cancer prognoses with clonal evolution models. *bioRxiv*. doi:[10.1101/761510](https://doi.org/10.1101/761510)

[J1] Lin, C., Jain, S., **Kim, H.**, Bar-Joseph, Z. (2017). Using neural networks for reducing the dimensions of single-cell RNA-Seq data. *Nucleic Acids Research*, 45(17). doi:[10.1093/nar/gkx681](https://doi.org/10.1093/nar/gkx681)

PRESENTATION

Posters

- Ahmed, M., Kashyap, D., **Kim, H.**, Duy, C. (2025, April 25-30). *DNMT1 promotes escape from chemotherapy-induced senescence in acute myeloid leukemia* [Abstract]. In Proceedings of the 116th Annual Meeting of the American Association for Cancer Research. Chicago, IL: AACR. Abstract nr 0293 / 2.
- **Kim, H.*** (2024). *It Takes a Village: Understanding the Community Aspects of Interdisciplinary Tutorials* Poster: 2024 ASEE/IEEE Frontiers in Education Conference, Washington, D.C.
- **Kim, H.***, Kosakovsky Pond, S. L. (2023). *PRSuite: PProperty Informed Models of Evolution (PRIME), the Imputation (PREI), and the Visualization (PReC)*. Poster: The Society for Molecular Biology and Evolution 23 Conference, Ferrara, Italy.
- **Kim, H.***, Shank, S., Kosakovsky Pond, S. L. (2022). *PProperty Informed Models of Evolution (PRIME)*. Poster: The 31st KSEA Northeast Regional Conference, Virtual.
- Hu, Y., Chen, C., Ding, Y.*, **Kim, H.**, Tan, K. (2019). *Synergistic Control Genes in Cancer Gene Networks as Targets for Combination Therapy*. Poster: Children's Hospital of Philadelphia Research Poster day and Scientific Symposium, Philadelphia, PA.

Talks

- **Kim, H.*** (2024). *Characterization of Disciplinary Hybridization in Bioinformatics Software Tutorials*. Seminar: Philadelphia Korean Scholars Association, Philadelphia, PA.
- **Kim, H.*** (2023). *Using HyPhy package on comparative sequence analysis*. Workshop: Temple Bioinformatics Studio, Philadelphia, PA.
- **Kim, H.*** (2023). *Data Analysis in Bioinformatics Research (in academia)*. Seminar: Philadelphia Developer Group, Virtual.

- **Kim, H.***, Kosakovsky Pond, S. L. (2022). *PRIME Evolutionary Imputation (PREI)*. Flash Talk: International Conference on Intelligent Biology and Medicine, Philadelphia, PA.

TEACHING EXPERIENCE

Client

Jan 2025 - Apr 2025

Temple University

Projects In Computer Science (CIS-4398)

- Provided feedback to a project as a client in Professor Ian Tyler Applebaum's senior capstone class for 6 weeks [[Class Website](#) | [Team Documentation Website](#) | [Client Pitch](#) | [Project Final Demo](#)].
- Team size: 7.

Co-Coordinator/Reflective Practicum Completion for THE Certificate

May 2023 - July 2023

Temple University

Deep Learning for the Life Sciences Journal Club

- Co-organized a 10-week summer journal club with Dr. Enzo Carnevale for researchers of diverse levels of expertise (undergraduate students, graduate students, postdocs, alumni, visitors, and professors).
- Built a unique inter-departmental community in the College of Science and Technology.
- Discussed teaching methods and reflections with Dr. Jay Lunden (reflective practicum mentor) for 7 weeks.
- Wrote [\[W1\] Personal Narratives of Works in Progress](#) based on this experience.
- Group size: 35.

Course Completion for Teaching in Higher Education (THE) Certificate

Aug 2022 - Dec 2022

Temple University

Teaching in Higher Education (EPSY-8985)

- Developed syllabi, assignments, and assessments using the principles of integrated course design.
- Applied the current theories of teaching in different contexts.
- Used a variety of effective teaching methods to address learners universally.
- Discussed a reflective and purposeful approach to teaching with other instructors.

Teaching Assistant

Aug 2020 - Dec 2020

Temple University

Genomics in Medicine (BIOL-3111/5111)

- Generated formative and summative assessment materials and provided timely feedback ([Youtube/Introduction](#)).
- Class size: 150.

Teaching Assistant

Aug 2019 - May 2020

Temple University

Wet Lab Courses (BIOL-2112 and BIOL-1012)

- Gave a short lecture in the beginning of every lab, monitored student performance, and provided guidance.
- Graded lab reports and generated quizzes.
- Class size: 20 (x 2 sections) each.
 - BIOL-1012 General Biology II, Spring 2020 was an introductory wet lab course for non-biology majors.
 - BIOL-2112 Introduction to Cellular and Molecular Biology, Fall 2019 was a lab for biology majors.

Course Developer

Feb 2016 - Aug 2016

Carnegie Mellon University

Programming for Scientists (02201/02601)

- Generated open-source course materials (codes and instructions) with Drs. Phillip Compeau and Carl Kingsford for Go-lang beginners.

TUTORIAL

[T2] Kim, H. [Hannah Kim in Comp Bio]. (2025, May 28). *#summer2025 #hci [Research Project Teaser] Bioinformatics Software Tutorial Supporting Chatbot* [Video]. YouTube. <https://youtu.be/cfTl6e58DPU>
[T1] Kim, H. [GalaxyProject]. (2024, Sep 13). *GTN Tutorial: Chloroplast Genome Assembly* [Video]. YouTube. <https://youtu.be/gIcbY9kXdTo?si=FrJLLb0aWNok-Ck>

PROFESSIONAL EXPERIENCE

Project Lead Feb 2024 - present
Temple University ACME Group & Temple University HCI lab *Philadelphia, PA*

- Identified gaps in knowledge and proposed ideas that can make data and method work together.
- Reconciled different research interests of stakeholders involved.
- Leading a research team since Spring 2025.
 - Team: HP (05/2025-present); RN (05/2025-present); EJ (05/2025-present); JS (01/2025-present); RAN (01/2025-present); SP (01/2025-05/2025); KB (01/2025-05/2025); MD (01/2025-05/2025)

Bioinformatics Engineer Oct 2021 - Jan 2022
Lifetime Omics *Remote*

- Automated cutting-edge methods and analyzed COVID-19 metagenomics data in the Google Cloud environment.
- Developed detailed standard operating procedure for reproducibility.
- Took initiatives to solve problems and demonstrated dedication for the project in the startup environment.

Bioinformatics Analyst/Software Engineer Jul 2017 - Jun 2019
Children's Hospital of Philadelphia – Kai Tan lab *Philadelphia, PA*

- Investigated RNA-Seq and microarray data from B-Cell Acute Lymphoblastic Leukemia subtypes using differential gene expression analysis, Gene Ontology enrichment analysis, and other relevant bioinformatics methods.
- Identified cancer-specific genetic interactions that led to publications in high-impact journals.
- Facilitated communication in the interdisciplinary environment of doctors and wet-lab and dry-lab researchers.

Research Programmer Feb 2017 - Jun 2017
Carnegie Mellon University – Russell Schwartz lab *Pittsburgh, PA*

- Investigated clinical and genomic data to create a cancer progression analysis pipeline using machine learning.

MS Graduate Researcher Jan 2016 - Dec 2016
Carnegie Mellon University – Ziv Bar-Joseph lab *Pittsburgh, PA*

- Curated and analyzed single-cell gene expression data.

Post-Baccalaureate Researcher (Chemistry/Biology) Aug 2013 - Jun 2014
Carnegie Mellon University – Drs. Fred Lanni, Aaron Mitchell, and Luisa Hiller *Pittsburgh, PA*

- Tested various polymer surface coatings for the prevention and destruction of biofilms using red/NIR light.

Undergraduate Student Researcher (Chemistry) Jan 2012 - Aug 2013
Carnegie Mellon University – Kevin Noonan lab *Pittsburgh, PA*

- Characterized pyrylium and pyridinium salts by modifying functional groups.

Student Researcher (Biology)

Carnegie Mellon University – 2011 Summer Research Institute

Jun 2011 - Aug 2011

Pittsburgh, PA

- Analyzed interactions among three ribosomal assembly factors in *Saccharomyces cerevisiae*.
- 1 of 12 student researchers selected for the program.

AWARDS, FELLOWSHIPS, & GRANTS

2023 Best Poster Award, 2nd Place (Computer and Information Sciences), The 36th US-Korea Conference

2022&2023 Selected Attendee Support, Scientists and Engineers Early Career Development Workshop

2022 KSEA Excellent Poster Award, The 31st KSEA Northeast Regional Conference

2022 CST Three-Minute Thesis Competition 2nd Place Award, Temple University (College-level)

2015 Departmental Merit Fellowship, Carnegie Mellon University

2013 Mellon College of Science Research Honors, Carnegie Mellon University

2012 Summer Undergraduate Research Fellowship, Carnegie Mellon University

UNIVERSITY SERVICE

Panelist

Oct 2024 - Aug 2025

- **CST Graduate Orientation, 08/2025**, Graduate Admissions Team in College of Science and Technology
 - Shared graduate school tips and tricks with the new graduate students.
- **Publishing Journal Articles: A Panel Discussion, 10/2024**, Temple University Graduate School
 - Served as one of four panelists. Shared my solo- and first-author experiences with graduate students across the community.

College of Science and Technology-Graduate Student Organization Board Member Dec 2021 - May 2024

- **Media Chair** May 2023 - May 2024
 - Advertised the organization events on social media. Communicated with members from different departments. Supported organization social events and generated flyers.
 - Organized **Graduate Student Fall** and **Spring** social events each with 30+ attendees with the board members.
- **DEI Representative** Dec 2021 - Apr 2023
 - Identified potential DEI topics within the organization and suggested appropriate strategies.
 - Facilitated the success of the yearly PhD/MS alumni panelist event involving all six departments within college for two years in a row.

Student Representative

Nov 2021 - Aug 2023

Temple University College of Science and Technology Diversity, Equity, and Inclusion (CST-DEI) Committee

- Discussed the promotion of DEI within college at the bi-weekly committee meetings.
- Provided feedback for a wide array of DEI topics and addressed current issues with other members.

Vice President

Sep 2021 - Sep 2023

Temple University Biology Graduate Student Society (BGSS)

- Facilitated communication between the department and the graduate school.
- Evaluated travel grant applications with the president and the treasurer.
- Led action plans to address diverse career needs within the department of biology and organized regular meetings with the graduate school directors.
- Generated databases for student placements after graduation.
- Supported the on-boarding process for the first-year students in the department of biology.
- Planned and oversaw activities for the Fall 2022 departmental retreat.

LEADERSHIP EXPERIENCE

Alumni Network Leader

Apr 2025 - present

Carnegie Mellon University Philadelphia Network

- Hosted local events ([Globally Plaid, Sep 2025](#)) for the alumni and affiliates with Carnegie Mellon University.

KITEE Leadership

Jan 2023 - present

- **Young Generation Director I (PhD level)**

Aug 2025 - present

- Supported organizing KITEE events and promoting membership drive.

- **The 33rd KSEA NRC Steering Committee Member & PR Director**

Jan 2024 - Apr 2024

- Planned the conference in the weekly committee meeting with PIs and staff from academia and industry.
- Discussed conference planning with other members; an emphasis on diversity and inclusion (i.e. accessibility & childcare support).
- [Supported onsite facilitation on the day of event with >80 attendees.](#)

- **Event Director**

Oct 2023 - Dec 2024

- Connected with graduate students in the northeast region in the US to promote KITEE events.
- Brainstormed ideas during event meetings and supported all registration-related endeavors.
- Organized [KITEE Entrepreneurship Forum 2023](#) (>80 attendees) as part of the committee.

- **The 2023 KITEE-FELIX Hackathon Committee Secretary**

Feb 2023 - Apr 2023

- Organized the hackathon in the weekly committee meeting.
- Reached out to universities and engineer communities in the Philadelphia region.
- Supported the onsite activities.

- **[The 32nd KSEA NRC Committee Philadelphia Young Generation Director](#)**

Jan 2023 - Apr 2023

- Planned the Northeast Regional Conference (NRC) conference in the bi-weekly committee meeting with PIs and staff from academia and industry.
- Operated as the public relations and promotion chief for the pre-networking event before the conference.
- Promoted networking (e.g. networking bingo) and facilitated the event flow onsite (104 registrants).

COMMUNITY INVOLVEMENT

Ad Hoc Reviewer

- 2025 IEEE Frontiers in Education Conference (FIE) Technical Program Committee (TPC), *04/2025*
 - Reviewed and provided feedback on full papers (2), each with a strong focus on statistics and algorithms.
- 2025 IEEE Global Engineering Education Conference (EDUCON) TPC, *11/2024*
 - Reviewed and provided feedback on full papers (3) about Multidisciplinary and Transdisciplinary Education.
- 2024 IEEE Frontiers in Education Conference (FIE) Technical Program Committee (TPC), *07/2024 & 03/2024*
 - Reviewed and provided feedback on FIE conference abstracts (3) & papers (2).
- [Temple University CST Diversity Innovation Initiative \(DII\) Fund](#), *03/2024*
 - Scrutinized the funding proposals and provided feedback to the DII committee.
- [Scientific Reports](#) (2021 IF=4.996), *04/2023*
 - Commented as a reviewer using my experience in cancer, evolutionary biology and single-cell transcriptomics.
- [Frontiers in Oncology](#) (2021 IF=5.738), *06/2022*
 - Commented as a reviewer for an academic journal using my experience in cancer research and bioinformatics.

Science Fair Judge

- George Washington Carver Science Fair, *03/2025, 04/2024, 03/2023 & 03/2022*
 - Judged science fair projects done by students in grades 4 and 5 (04/2024) and grades 6 to 12 (03/2025, 03/2022 & 03/2023) with a group of educators.
 - Judged Behavior and Social Sciences category in 03/2025.

PROFESSIONAL MEMBERSHIPS

- [PhillyCHI](#), *01/2025-present*
- [Galaxy Training Network Contributor](#), *07/2024-present*
- [Temple Asian American and Pacific Islander \(AAPI\) Faculty & Staff Affinity Group](#), *02/2024-present*
- [Korean-American Women in Science and Engineering \(KWise\)](#), *08/2023-present*
- [Philadelphia Developer Group](#), *04/2023-present*
- An Affiliate Member of Temple University [Human-Computer Interaction \(HCI\) Lab](#), *03/2023-present*
- Collab with researchers from [Fox Chase Cancer Center](#) at Temple University Hosp., *12/2022-11/2024*
- Collab with (current and previous) researchers from [Institute for Genomics and Evolutionary Medicine](#) at Temple University, *08/2022-11/2024*
- [Korean American Society in Biotech and Pharmaceuticals \(KASBP\)](#), *10/2022-07/2024*
- [Korean-American Innovative Technology Engineers and Entrepreneurs \(KITEE\)](#), *04/2022-present*
- [AnitaB.org](#), *09/2021-present*
- [Korean-American Scientists and Engineers Association \(KSEA\)](#), *02/2020-present*
- Rotations in [Zoran Obradovic](#), [Sergei L. Kosakovsky Pond](#), and [Sudhir Kumar Labs](#), *08/2019-05/2020*
- [Philadelphia Korean Scholars Association \(PKSA\)](#), *06/2019-present*

DOCTORAL COURSEWORK

Fall 2020 [Genomics and Infectious Disease Dynamics](#) *BIOL-5128*
Fall 2020 [Seminar: "Ecoevo discuss"](#) *BIOL-8210*
Fall 2020 [Applied Statistics and Data Science](#) *STAT-8109*
Spring 2020 [Genomics and Evolutionary Biology of Parasites](#) *BIOL-5241*
Spring 2020 [Data-Intensive and Cloud Computing](#) *CIS-5517*

Spring 2020 **Knowledge Discovery and Data Mining** *CIS-5523*

Fall 2019 **Genomics in Medicine** *BIOL-5111*

Fall 2019 **Topics in Bioinformatics** *BIOL-5466*

Fall 2019 **Seminar Biol 8210 at Center for Computational Genetics and Genomics** *BIOL-8210*

MASSIVE OPEN ONLINE COURSE CERTIFICATES

11/2022 **The Inclusive STEM Teaching Project** *InCLU1x*

10/2022 **Business Foundations** *UBCx*

09/2022 **Cancer Biology Specialization Courses** *Coursera*

03/2022 **Matrix Algebra for Engineers** *Coursera*

02/2022 **Viruses & How to Beat Them: Cells, Immunity, Vaccines** *IsraelX*

PERSONAL PROJECTS

- **HearU: Bridging the Gap in Korean-American Mental Health Care**, Voted "Second Place" by the audience in the KITEE-FELIX Ideathon Pitch. Ideated by PhD students each from NJIT, Penn, and Temple., *04/2023*

- **Colorblindness Image Enhancer**, "Most Technically Impressive" in OwlHacks 2023, *02/2023*

MEDIA APPEARANCES

- **Graduate Student Spotlight by Temple University Center for the Advancement of Teaching**, My unique publication experience during the reflective practicum for the Teaching in Higher Education Certificate was spotlighted on the Center for the Advancement of Teaching web page in Summer 2024., *05/2024*

- **Graduate Student Feature by Temple University Graduate School**, 1 of 12 graduate students at Temple University to be featured on the Graduate School web page and social media in Spring 2024. It was a great opportunity to share my research and show gratitude for the opportunities I got at Temple., *02/2024*

CODING LANGUAGES

python, R, MATLAB, bash, JavaScript, Go-lang