Mark S. Kim

510.499.7953 ♦ mkim797@yahoo.com
mkim797 ♦ mk-imagine

Education

San Francisco State University — 2023 to Present
Data Science and Artificial Intelligence, M.S.
GPA: 4.00
Anticipated Graduation: May 2025

San Francisco State University — 2018 to 2023
Computer Science, B.S.
GPA: 4.00
Mathematics: Advanced Studies, B.A.
GPA: 3.98

Research Experience

Graduate Researcher — Aug 2023 to Present
San Francisco State University – San Francisco, CA
Principal Investigator: Dr. Hui Yang
AdvisingGPT: Foundation Models for Student Advising

An exploration of using foundation models such as ChatGPT, Mistral, Llama3, and Google Gemini Pro, to provide automated course equivalency evaluation and personalized program roadmaps to maximize student success rates. The techniques employed include: prompt engineering, in-context learning, and instruction fine-tuning of foundation and embedding models; document-level embeddings search and ranking; and retrieval augmented generation.

Graduate Researcher/Program Lead — Jan 2023 to Present
San Francisco State University – San Francisco, CA
Principal Investigator: Dr. Anagha Kulkarni
Artificial Intelligence Scholarships that Improve
Academic Achievement, Retention, and Career Success (AI-STAARS)

Program developed to investigate how to improve students' sense of belonging and identity with the field of Computer Science, and the effect that they may have on students' retention and success. Qualitative research is ongoing through observations of student engagement during discussions, interviews, and surveys.

Research Engineering Intern — Jun 2022 to Aug 2022
Cofense Inc. – Leesburg, VA
Research Supervisor: Chip McSweeney, Senior Research Engineer
Phishing Emails: Clustering and Analysis

An investigation of clustering for the early detection and categorization of phishing emails with an emphasis on computational speed and performance. Python C extensions that parse and analyze emails were restructured and optimized, which reduced memory usage by 95% and increased data utilization by 5%. Similarly, development and validation of thead-based and process-based asynchronous parallelization of the Python code base reduced processing time by 80%. Tradeoffs between dimensional reduction (PCA) and maintaining data precision were examined and analyzed.

NSF REU Scholar and Researcher — Jun 2021 to Aug 2021
University of Houston Department of Computer Science – Houston, TX
Funding by the National Science Foundation
Principal Investigator: Dr. Ernst Leiss
Research Supervisor: Dr. Ionnis Pavlidis
Frontiers of Data-Driven Computing REU

Developed and implemented multi-threaded retrieval algorithms for over 10 million records of affective research data (documents and authors) from Scopus, PubMed, and Web of Science. Performed exploratory clustering and co-occurrence matrix analysis of retrieved data to facilitate the investigation of a quantitative history of affective research.

Innovation and Entrepreneurship Fellow Sept 2020 to May 2021
San Francisco State University Lam Family College of Business – San Francisco, CA
Faculty Director: Dr. Sybil Yang
COB Innovation and Entrepreneurship Fellowship

Collaborated with co-founders to design and develop a software-based test preparation platform for disenfranchised students.

Undergraduate Research Assistant Apr 2020 to Jun 2020
San Francisco State University Department of Mathematics – San Francisco, CA
Research Supervisor: Dr. Shandy Hauk
Remote Instruction Pedagogy in Mathematics

Provided an academic literature review of research in pedagogical best practices for remote instruction. This review was to inform new research in remote instruction in response to the COVID-19 pandemic.

Undergraduate Research Assistant Nov 2019 to Jan 2020
San Francisco State University Department of Mathematics – San Francisco, CA
Research Supervisor: Dr. Alexandra Piryatinska
Change-point Analysis Algorithm Development

Attended workshops in numerical methods and statistics theory in preparation for research in change-point analysis and algorithm development. Studied completed change-point analysis research and began work on adapting existing Matlab code to Python.

Teaching & Advising

Program Lead/Graduate Researcher Jan 2023 to Present
San Francisco State University - San Francisco, CA
Artificial Intelligence Scholarships that Improve Academic Achievement, Retention, and Career Success (AI-STAARS)
Develop and lead a three pronged support system to improve student success by reinforcing foundational knowledge, providing intensive advising, and engaging students with activities and exercises. This includes a weeklong programming foundations bootcamp and a 10 week long accelerated course in Machine Learning and Artificial Intelligence.

Mathematics Program Liaison Jan 2024 to May 2024
CS Program Liaison Aug 2023 to Dec 2023
San Francisco State University - San Francisco, CA
Center for Science and Mathematics Education (CSME)
Lead a team of undergraduate facilitators that teach and support students taking supplementary courses in Mathematics and Computer Science.

Facilitator Jan 2021 to May 2023
San Francisco State University - San Francisco, CA
Center for Science and Mathematics Education (CSME)
Develop lesson plans and lead supplementary courses in Mathematics and Computer Science. These complementary courses deepen subject knowledge and improve student outcomes in their parent courses.

Undergraduate Teaching Assistant Aug 2019 to Dec 2020
San Francisco State University - San Francisco, CA
Department of Mathematics

Conferences

"Metacognition in Computer Science Learning: Perception vs. Reality," National Association of School Psychologists Annual Convention. Seattle, WA, USA. Accepted and forthcoming.

"Foundation Models for Course Equivalency Evaluation," IEEE International Conference on Data Mining. Abu Dhabi, UAE. Accepted and forthcoming.

Leadership

Association for Computing Machinery (ACM), SFSU Student Chapter — Sept 2019 to Present
Graduate Mentor, May 2024 to Present
Treasurer, May 2023 to May 2024
President, Jan 2022 to May 2023

SF Hacks — May 2022 to Present
Graduate Mentor, May 2024 to Present
Treasurer, May 2022 to May 2024

CS{Research} Club — Aug 2023 to Present
President/Founder, Aug 2023 to Present

Artificial Intelligence Club — Aug 2023 to Present
Treasurer, Aug 2023 to Present

Korean Student Association — Aug 2024 to Present
President, Aug 2024 to Present

Society for Industrial and Applied Mathematics (SIAM) — Oct 2021 to Present

Professional Memberships

Society for Industrial and Applied Mathematics (SIAM)
Association for Computing Machinery (ACM)
National Association of School Psychologists (NASP)
Institute of Electrical and Electronics Engineers (IEEE)

Professional Experience

Financial Center Manager, AVP — 2017 to 2018
Bank of America - Belmont, CA

Founder/CEO — 2005 to 2017
Kindred Enterprises Incorporated - San Francisco, CA

Landing Support Specialist, Corporal — 1995 to 2001
United States Marine Corps Reserve - San Jose, CA

References

Hui Yang
Associate Professor
Department of Computer Science
San Francisco State University
(415) 338-2221,

Shasta Ihorn
Associate Professor
Department of Psychology
San Francisco State University
(415) 338-3218,

Anagha Kulkarni
Professor and Associate Department Chair
Department of Computer Science
San Francisco State University
(415) 338-2539,

Jessica Fielder
Supplemental Instruction Program Director
Center for Science and Mathematics Education
San Francisco State University
(415)-405-0540,

Arno Puder
Professor and Department Chair
Department of Computer Science
San Francisco State University
(415) 338-2853,