

Mark S. Kim

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EDUCATION

SAN FRANCISCO STATE UNIVERSITY
Data Science and Artificial Intelligence, M.S.
GPA: 4.00
Anticipated Graduation: May 2025

2023 to Present

SAN FRANCISCO STATE UNIVERSITY
Computer Science, B.S.
GPA: 4.00
Mathematics: Advanced Studies, B.A.
GPA: 3.98

2018 to 2023

CONFERENCES

Kim, M., Simon, H., Stipe, C., & Ihorn, S. (2025). Metacognition in Computer Science Learning: Perception vs. Reality. Poster to be presented at the annual meeting of the National Association of School Psychologists, Seattle, WA.

Simon, H., Kim, M., & Ihorn, S. (2025). The Impact of Early Exposure to Computing on Identity Development. Poster to be presented at the annual meeting of the National Association of School Psychologists, Seattle, WA.

Kim, M., Puder A., Hayward C., & Yang H. (2024). Foundation Models for Course Equivalency Evaluation. Paper to be presented at the IEEE International Conference on Data Mining: Workshop on Information Seeking with Big Models, Abu Dhabi, UAE.

Kim, M., Simon, H., Ihorn, S., & Kulkarni, A. (2024). Bridging the Experience Chasm in Computer Science: An Inter-term Bootcamp Approach. Poster presented at the San Francisco State University College of Science and Engineering Graduate Research and Creative Works Showcase, San Francisco, CA.

HONORS & AWARDS

ICDM 2024 NSF Travel Award – ICDM 2024, Abu Dhabi, UAE, \$800

Nov 2024

First place final presentation – Frontiers in Data-Driven Computing REU, University of Houston

Aug 2021

Finalist – Entrepreneurship Symposium Innovation Pitch Competition, San Francisco State University

May 2021

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 proprietary and open-source foundation models 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 Investigators: Dr. Anagha Kulkarni and Dr. Shasta Ihorn

Artificial Intelligence Scholarships that Improve Academic Achievement, Retention, and Career Success (AI-STARS)

An examination of methods to improve students' sense of belonging and identity with the field of Computer Science, and the effect it may have on students' retention and success. Qualitative research on metacognition through a comparative analysis of in-class assessed performance against students' perceived understanding. Data is collected through interviews, surveys, and observations of students during discussions.

Research Engineering Intern

Jun 2022 to Aug 2022

COFENSE INC. – Leesburg, VA

Research Supervisor: Chip McSweeney, Senior Research Engineer

Phishing Emails: High Speed 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 thread-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 – Houston, TX

Funding by the National Science Foundation

Program Director: Dr. Ionnis Pavlidis

Principal Investigator: Dr. Ernst Leiss

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.

Undergraduate Research Assistant

Apr 2020 to Jun 2020

SAN FRANCISCO STATE UNIVERSITY – 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 – 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-STARS)

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 weekly intra-term lecture and workshop series; a weeklong programming foundations bootcamp to reduce learning loss; and a 10 week accelerated summer course in Machine Learning and Artificial Intelligence.

Mathematics Program Liaison

Jan 2024 to May 2024

Computer Science 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

Grade and provide feedback for homework assignments and exams. Maintain online learning management system (iLearn).

LEADERSHIP

ASSOCIATION FOR COMPUTING MACHINERY (ACM), SFSU Student Chapter <i>Treasurer</i> , May 2023 to May 2024 <i>President</i> , Jan 2022 to May 2023	Sept 2019 to Present
SF HACKS <i>Treasurer</i> , May 2022 to May 2024	May 2022 to Present
CS{RESEARCH} CLUB <i>President/Founder</i> , Aug 2023 to Present	Aug 2023 to Present
ARTIFICIAL INTELLIGENCE CLUB <i>Treasurer</i> , Aug 2023 to Present	Aug 2023 to Present
KOREAN STUDENT ASSOCIATION <i>President</i> , Aug 2024 to Present	Aug 2024 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 BANK OF AMERICA - Belmont, CA	2017 to 2018
Founder/CEO KINDRED ENTERPRISES INCORPORATED - San Francisco, CA	2005 to 2017
Loan Officer BAYCAL FINANCIAL - San Jose, CA	2003 to 2005
Outside Sales Representative TRANSWESTERN PUBLISHING COMPANY - Petaluma, CA	2001 to 2003
Landing Support Specialist , Corporal UNITED STATES MARINE CORPS RESERVE - San Jose, CA	1995 to 2001

REFERENCES

Hui Yang*Professor*

Department of Computer Science

SAN FRANCISCO STATE UNIVERSITY

415.338.2221, huiyang@sfsu.edu

Anagha Kulkarni*Professor and Associate Department Chair*

Department of Computer Science

SAN FRANCISCO STATE UNIVERSITY

415.338.2539, ak@sfsu.edu

Shasta Ihorn*Associate Professor*

Department of Psychology

SAN FRANCISCO STATE UNIVERSITY

415.338.3218, sihorn@sfsu.edu

Jessica Fielder*Supplemental Instruction Program Director*

Center for Science and Mathematics Education

SAN FRANCISCO STATE UNIVERSITY

415.405.0540, jfielder@sfsu.edu

Arno Puder*Professor and Department Chair*

Department of Computer Science

SAN FRANCISCO STATE UNIVERSITY

415.338.2853, arno@sfsu.edu

Dragutin Petkovic*Professor*

Department of Computer Science

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