



# Mark S. Kim

Data Science and Artificial Intelligence  
Masters Student



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## Projects, Research, & Fellowships

Jan 2022 to Present

**AdvisingGPT: Foundation Models for Student Advising** - San Francisco, CA  
*San Francisco State University, Department of Computer Science*  
Principal Investigator: Dr. Hui Yang

- Explore foundation models for course equivalency evaluation, and creation of personalized roadmaps to maximize student success rates.
- Investigate different methods including: prompt engineering; in-context learning; instruction fine-tuning; document-level embeddings search and ranking; and retrieval augmented generation.
- Iterative development informed through ongoing performance evaluation.

**Phishing Emails: Clustering and Analysis** - Leesburg, VA  
*Cofense Inc.*

Research Supervisor: Chip McSweeney, Senior Research Engineer

- Investigation of clustering for early detection and categorization of phishing emails with an emphasis on computational speed and performance.
- Restructure and optimize Python C extensions that parse and analyze emails. Reduced memory usage by 95% and increased data utilization by 5%.
- Develop and validate thread-based and process-based parallelization (asynchronous). Reduced total processing time by 80%.
- Examine and analyze tradeoffs between dimensional reduction (PCA) and maintaining data precision.

Sept 2020 to Aug 2021

**Frontiers of Data-Driven Computing REU** - Houston, TX  
*University of Houston Department of Computer Science*  
Funding by the National Science Foundation  
Principal Investigator: Dr. Ernst Leiss  
Research Supervisor: Dr. Ionnis Pavlidis

- Develop and implement retrieval algorithms for affective research data (documents and authors) from Scopus, PubMed, and Web of Science.
- Exploratory clustering and co-occurrence analysis of retrieved data for a quantitative history of affective research.

**COB Innovation and Entrepreneurship Fellowship** - San Francisco, CA  
*San Francisco State University Lam Family College of Business*  
Faculty Director: Dr. Sybil Yang

- Cross-functional collaboration with co-founders to design and develop test preparation platform for disenfranchised students.

Nov 2019 to Jun 2020

**Remote Instruction Pedagogy in Mathematics** - San Francisco, CA  
*San Francisco State University Department of Mathematics*  
Research Supervisor: Dr. Shandy Hauk

- Academic literature review of research in pedagogical best practices for remote instruction.

**Change-point Analysis Algorithm Development** - San Francisco, CA  
*San Francisco State University Department of Mathematics*  
Research Supervisor: Dr. Alexandra Piryatinska

- Development of change-point analysis algorithm in Python from completed change-point analysis research.

## Education

**Data Science and Artificial Intelligence, M.S.**

*Anticipated Graduation: May 2025*

*San Francisco State University*

GPA: 4.00

**Computer Science, B.S.**

**Mathematics: Advanced Studies, B.A.**

*May 2023*

*San Francisco State University*

GPA: 3.99

## Honors & Awards

**First Place Presentation**

Frontiers in Data-Driven Computing REU

*Aug 2021*

**Finalist**

SFSU Innovation and Entrepreneurship  
Pitch Competition

*May 2021*

**Dean's List**

San Francisco State University

*2018, 2019, 2020, 2021, 2022, 2023*

## Organizations

**ACM Student Chapter @ SFSU**

Graduate Mentor, 2024-Present

Treasurer, 2023-2024

President, 2022-2023

**SF Hacks**

Treasurer, 2022-2024

**CS Research Club**

President/Founder, 2023-Present

## Employment History

**Graduate Researcher**

San Francisco State University

Foundation Models for Student Advising

*2023 to Present*

*San Francisco, CA*

**Program Lead/Graduate Researcher**

San Francisco State University

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

*2023 to Present*

*San Francisco, CA*

**Program Liaison**

*Mathematics & Computer Science*

San Francisco State University

Center for Science and Mathematics Education

*2023 to 2024*

*San Francisco, CA*

**Facilitator**

San Francisco State University

Center for Science and Mathematics Education

*2021 to Present*

*San Francisco, CA*

**Undergraduate Teaching Assistant**

San Francisco State University

Department of Mathematics

*2019 to 2021*

*San Francisco, CA*