

## 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 & FELLOWSHIPS

### 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.

### Program Lead/Graduate Researcher

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)*

Develop and lead a comprehensive support system to enhance student success through foundational knowledge reinforcement, intensive advising, and engaging activities. This initiative includes a weekly lecture and workshop series, a weeklong programming bootcamp to mitigate learning loss, and a 10-week accelerated summer course in Machine Learning and Artificial Intelligence. Additionally, research is being conducted to foster students' sense of belonging and identity in Computer Science and its impact on retention and success. Qualitative studies focus on metacognition through comparative analysis of in-class performance and students' self-assessed understanding, with data collected via interviews, surveys, and observations.

### 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. Optimizations to Python C extensions for parsing and analyzing emails reduced memory usage by 95% and improved data utilization by 5%. Additionally, thread-based and process-based asynchronous parallelization of the Python code reduced processing time by 80%. Trade-offs between dimensional reduction (PCA) and data precision were also analyzed.

### Independent Study and Research Literature Review

Jan 2022 to May 2022

San Francisco State University Department of Mathematics – San Francisco, CA

Research Supervisor: Dr. Serkan Hosten

*Graphical Models for Brain Networks*

Studied and explored *Graphical Models* by Steffen Lauritzen which culminated in an examination of the research completed by Ranciati, Saverio et al. in "Fused graphical lasso for brain networks with symmetries."

**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 on numerical methods and statistical theory to prepare for research in change-point analysis and algorithm development. Reviewed existing change-point analysis study and began adapting Matlab code to Python

**HONORS & AWARDS**

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

Dean's List, San Francisco State University

2018, 2019, 2020, 2021, 2022, 2023

**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

## EMPLOYMENT HISTORY

<b>Program Lead/Graduate Researcher</b> SAN FRANCISCO STATE UNIVERSITY - San Francisco, CA Artificial Intelligence Scholarships that Improve Academic Achievement, Retention, and Career Success (AI-STAARS)	Jan 2023 to Present
<b>Graduate Researcher</b> SAN FRANCISCO STATE UNIVERSITY - San Francisco, CA Research in Foundation Models for Student Advising	Aug 2023 to Present
<b>Mathematics Program Liaison</b> <b>CS Program Liaison</b> SAN FRANCISCO STATE UNIVERSITY - San Francisco, CA Center for Science and Mathematics Education (CSME)	Jan 2024 to May 2024 Aug 2023 to Dec 2023
<b>Facilitator</b> SAN FRANCISCO STATE UNIVERSITY - San Francisco, CA Center for Science and Mathematics Education (CSME)	Jan 2021 to May 2023
<b>Undergraduate Teaching Assistant</b> SAN FRANCISCO STATE UNIVERSITY - San Francisco, CA Department of Mathematics	Aug 2019 to Dec 2020
<b>Financial Center Manager, AVP</b> BANK OF AMERICA - Belmont, CA	2017 to 2018
<b>Founder/CEO</b> KINDRED ENTERPRISES INCORPORATED - San Francisco, CA	2005 to 2017
<b>Landing Support Specialist, Corporal</b> UNITED STATES MARINE CORPS RESERVE - San Jose, CA	1995 to 2001

## 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)

## SKILLS & COMPETENCIES

LANGUAGES: Python, Java, C/C++, JavaScript, HTML, CSS, MySQL, Matlab, R  
WEB FRAMEWORKS/ENVIRONMENTS: Node.js, Express.js, React.js, Handlebars.js  
LIBRARIES: PyTorch, Transformers, Sentence Transformers, Pandas, NumPy, Pydantic, scikit-learn, Matplotlib, Scrapy, BeautifulSoup, Plotly, Dash  
DEPLOYMENT/CLOUD COMPUTING: AWS (EC2, S3, and Route53), Google Cloud (Compute Engine, Storage, Domains), Google Analytics, Oracle Cloud Infrastructure, NGINX  
DEVELOPMENT PLATFORMS: Docker, Git, Jupyter, Conda  
OTHER: L<sup>A</sup>T<sub>E</sub>X, Adobe Creative Suite (XD, Illustrator, InDesign, Photoshop)

