

Nina Mir

Pronouns: They/Them

Computer Science Graduate Student

[GitHub](#)

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EDUCATION

San Francisco State University, San Francisco, CA— *Master of Science*

February 2018 - Present

- Computer Science Department: Current GPA: **3.82/4**
- I took prerequisite courses for two semesters (Spring 2018 and Fall 2018) while being a conditional graduate student. Afterwards, I became a classified graduate student at the computer science department.

Louisiana State University, Baton Rouge, LA — *PhD in Chemical Engineering*

MONTH 2006- April 2014

- I was a teaching assistant in various undergraduate courses such as Heat Transfer, Linear Algebra, Unit Operations and Thermodynamics
- I did research in Porous Media Lab and attended conferences to present my research results.

EXPERIENCE

Tutor Corps, San Francisco — *Tutor*

January 2019 - PRESENT

Tutoring k-12 clients all over San Francisco in SAT, ACT, study skills, and STEM courses. I have experience tutoring teenagers with dyslexia, and ADD.

San Francisco State University, San Francisco — *Grader/Teaching Assistant at the Computer Science Dept.*

September 2018 - May 2019

Teaching Assistant for the Software Methodology course by Prof. Hui Yang (Fall 2018-Spring 2019)

Teaching Assistance for the Discrete Mathematics course by Prof. Fazli (Fall 2018 - Spring 2019)

SKILLS

Programming Language:

Python, Java, JavaScript,
C/C++, MATLAB, HTML, CSS

Web Dev: Flask, Django,
Express.js, Node.js, Bootstrap,
jQuery, Express, Nginx,
Gunicorn

Database: SQL

Data Visualization: Google
Chart API, D3.js

APIs/Platforms: AWS, Google
Vision API, DigitalOcean
Droplet server

Operating Systems: Windows,
Linux

LANGUAGES

English (Fluent), Farsi
(Fluent), German (Beginner)

Fog City Tutoring, San Francisco— Tutor

September 2018 - December 2019

Providing support in test prep and STEM courses to a variety of k-12 graders in San Francisco.

Joseph Clark Prep School, New Orleans, LA—Physics Teacher

September 2015 - April 2016

Teaching physics, ACT prep and Pre-Calculus to at-risk junior and senior students at this charter high school.

PROJECTS

Visualization of the San Francisco Police Dept Incident Reports (2019) — Data Visualization course Project (May 2020)

[Link to GitHub Repo](#) Live demo: <http://www.ninamir.info/>

Technologies/Frameworks/Coding Languages used :

Node.js, JQuery, Express, Nginx reverse proxy, Google Chart API, D3.js library, DigitalOcean droplet server, Linux Ubuntu 18.04 LTS Operating system, HTML, CSS, JavaScript, Git version control.

Data: SFPD Incident Reports: 2018 to Present dataset <https://data.sfgov.org/Public-Safety/Police-Department-Incident-Reports-2018-to-Present/wg3w-h783>

An interactive visualization system consisted of two views: Map and Graphs, displaying the incident categories and resolutions data plus geospatial distributions of such data in San Francisco.

Fridge App 2000 — Capstone Software Engineering course group project (Fall 2019) [Link to GitHub Repo](#)

Technologies/Frameworks/Coding Languages used :

Django web framework, Apache HTTP Server, Python, Google Vision API, food2fork API, Amazon Web Services, Linux Ubuntu 18.04 LTS Operating system, HTML, CSS, JavaScript, SQL Database, Docker, Git version control, Discord communication channel.

A multi-user web application allowing users to keep track of the content of their fridge items. This app allowed users

- To keep track of their daily intake of calories..
- To be alerted when perishable grocery items were about to expire.
- To suggest recipe ideas based on user-selected grocery items.
- To share their fridge inventory access with other users

("friends").

To update the contents of the fridge, users could either manually add items to their fridge or upload an image of their grocery shopping receipt, which was analyzed via the Google Vision API to extract the names of purchased grocery items.

My role in this project was both Scrum Master and front-end developer. Further, I was responsible for connecting the backend to APIs which we used. All team members participated in designing the databases, UML diagrams and developing use cases and debugging throughout the project. I learned:

- The importance of ongoing, clear communications among the team members.
- The importance of the design phase and continuous testing of our app features (Unit Tests).
- I learned Python and Django web framework for this project.

Pattern Recognition Fast Prototyping Projects — *Three individual projects for the Pattern Recognition and Artificial Intelligence course (Fall 2019)*

Technologies/Frameworks/Coding Languages used : MATLAB

- **Project 1:** Implementing the Principal Component Analysis (PCA) for Facial Recognition algorithm as explained in M. Turk and A. Pentland, "Eigenfaces for Recognition", Journal of Cognitive Neuroscience, vol. 3, no. 1, pp. 71-86, 1991
- **Project 2:** Implementing an unsupervised machine learning algorithm that used the mean-shift method of clustering to filter visual input. The algorithm was explained in Mean Shift: A Robust Approach toward Feature Space Analysis, IEEE Trans. Pattern Analysis Machine Intelligence, 24(5):603-619 (2002)
- **Project 3:** Implementing a supervised learning classifying algorithm -- an image retrieval algorithm as explained in the following paper Using Discriminant Eigenfeatures for Image Retrieval by Swets and Weng PAMI, 18(8): (1996)

I learned useful computer vision, machine learning algorithms while learning how to implement a scientific method after reading a scientific paper involving supervised and unsupervised algorithms using the PCA method, nearest neighbor classification and dimensionality reduction methods.

Linux Shell Scripting — *(Fall 2018) Individual project*

Technologies/Frameworks/Coding Languages used : C++

- Implementing a Linux shell that mimics the behavior of the BASH shell including : File operations, Piping, etc of a real Linux shell