

# Natalia Ramirez

## EXPERIENCE

### Cyber Defense Data Engineer | City and County of San Francisco

San Francisco, CA: Sep 2023 - Present

- Support cybersecurity initiatives critical to the defense of 30 city departments under the San Francisco City & County government including participating in incident response efforts
- Architect and optimize log data pre-processing pipelines using Python and Cribl
- Supervise the administration of a clustered, multi-site Enterprise Splunk infrastructure to ingest and process log sources for security event analysis
- Enhance SIEM capabilities to automate remediation tasks, streamline security analysis, and optimize administrative functions

### Data Scientist Intern | Apple

Cupertino, CA: Jan 2022 - Sep 2022

- Designed and implemented a Python program that ran periodically, extracting project management and live site activity information to populate an internal metrics Tableau dashboard with 100+ users
- Leveraged JIRA's Python REST API and Matomo Analytics for data ingest, and psycopg2 to format schema and load data to a PostgreSQL database
- Owned fullstack features from start to finish, including embedding dashboards with React and Tableau's JavaScript API to display live visualizations and statistics

### Quantitative Risk Analyst Intern | Bank Of America

New York, NY (Remote): June 2021 - Sept 2021

- Automated options trading simulations in Python, optimizing assessment throughput, and visualized outcomes using Matplotlib
- Conducted validation and thorough review of quantitative models and algorithms for credit risk prediction encompassing a dataset of more than 1 million account holders

### Program Development Assistant | Alliance for Inclusive AI

Berkeley, CA: Dec 2020 - June 2021

- Designed and delivered a comprehensive technical curriculum for an 18-student class, encompassing instruction in tools such as SQL, Python, Pandas, NumPy, PyPlot, and machine learning with scikit-learn
- Created and managed organization website (ai.ai.berkeley.edu), ensuring its optimal functionality, user experience, and content relevance

## PROJECTS

### Waveform Visualizer (Python)

Created a Python project that both visualizes and plays audio in real-time. Utilized the PyAudio library to read audio data from input sources, running FFT over fixed chunks and visualizing the resulting spectrogram using pygame to render frames on screen. Allows users to gain insights into the audio's amplitude and frequency information in an aesthetically pleasing graphical format.

### Face Morphing (Python)

Implemented face morphing using OpenCV, including image shape warping and cross-dissolving of colors. Defined corresponding points and applied Delaunay triangulation for smooth transitions.

### Gitlet Version-Control System (Java)

Built version-control system from scratch with Git functionalities: add, commit, rm, branch, log, merge, push. Implemented commit tree structure and object serialization.

## Contact & Socials

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Github.com/natalia1600

## Education

### UC Berkeley (2018 - 2023)

- B.A. Economics
- B.A. Data Science

## Relevant Coursework

- Machine Learning
- Data Engineering
- Data Structures & Algorithms
- Structure & Interpretation of Computer Programs
- Data Science Principles
- Probability & Statistics in Data Science
- Econometrics

## Skills & Technologies

Python (Scikit-learn, OpenCV, Pandas, RegEx, NumPy, SciPy, Tensorflow, PyTorch, Seaborn)

Java

Javascript (ReactJS)

R

SQL / NoSQL / MongoDB

Splunk

Cribl

Git

Elasticsearch

Tableau

LaTeX

Docker

## Involvements

Association of Women in EECS  
Berkeley Haas Web Design  
Data Scholars  
STEM Scholars  
Berkeley Economic Review  
150 Years of Women at Berkeley  
Association of Women in EECS

## Languages

English (Native/Fluent)

Spanish (Native/Fluent)