

# Francisco Arriaga Pazos

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*AI developer specialized in deep learning and computer vision. My work has focused primarily in generative modeling and recommender systems. A mixed background in mathematics, psychology, and computer science allows me to approach problems with technical rigor without foregoing explainability. I leverage years of experience as an academic researcher as well as a Machine Learning contractor and Statistical Research Analyst for industry*

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## SKILLS

### Programming languages

- Python ●●●●
- Java ●●●○
- SQL ●●●●
- R ●●●○
- Matlab ●●○○

### Libraries and Frameworks

- Pytorch and TensorFlow
- Numpy & Pandas
- OpenCV & SciKit learn
- Docker
- Next Js

### Spoken Languages

- Fluent in English and Spanish
- Conversational proficiency in Japanese and French

### Portfolio:

**Github:** <https://github.com/Blistt>

**LinkedIn:** <https://www.linkedin.com/in/francisco-arriaga-pazos/>

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## RESEARCH EXPERIENCE

Research Assistant: *UTEP, Vision and Learning Lab*

El Paso, TX – Jan 2021 – December 2022

- Thesis done on a 2D animation inbetweenner using Generative Adversarial Networks and autoencoders with **Pytorch** (Generative Deep Learning - AI).
- Pre-processing and supporting functions implemented using **Numpy, OpenCV & Sci-Kit Learn**.
- Extracted dataset of over 800k triplets (sequence of 3 consecutive frames) directly from scrapped videos using Shot-Detection algorithms.
- Implemented an image retrieval system using pre-trained VGG-19 embeddings with **TensorFlow**.

Research Assistant: *UTEP, Computer Science and Psychology Departments*

El Paso, TX – Sept 2017 – June 2018

- Implemented a tv-show and movies recommender system integrating personality scores with **Java** and **Python**.
- Created databases and established pipelines for 26 million ratings from over 470,000 users with **SQL**.
- Implemented a language-based recommender system using a classical vector space model and pre-trained **LLM embeddings**.

## PROFESSIONAL EXPERIENCE

Machine Learning Contractor: *MediTrak Life, Inc.*

West Lafayette, IN Dec 2023 – Present

- Conceptualized and implemented a system to help regulate blood pressure through behavioral recommendations derived from **XGBoost** regressors.
- Used 3 different augmentation schemes on extremely sparse patient data, and user transfer learning to personalize the recommender algorithm to each user.

Statistical Research Analyst: *El Paso Community College*

El Paso, TX Jan 2019 – Present

- Maintained and queried a database of student academic data using **SQL**.
  - Established a data pipeline to automatize reporting processes with **Pandas**.
  - Assisted in the implementation of a district wide change of counseling strategy by providing data driven insights.
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## EDUCATION

*The University of Texas at El Paso (UTEP)*

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Master's of Science (MS) in Artificial intelligence  
Bachelor of Science (BS) in Mathematics & Psychology

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