

# Jesse Guerrero

jessenerio.com

[linkedin](#) | [Github](#) | +1 915-247-8204

## SKILLS

<b>Programming Languages</b>	Python   Java   JavaScript   C++   Typescript   Kotlin
<b>Technologies</b>	Agentic AI   Multi-Modal LLMs   RAG Systems   Neural Networks   SQL   NoSQL   AWS Cloud Full-Stack   CUDA   High-Performance Compute   Hugging Face   Digital Twins

## EXPERIENCE

### Secure AI Autonomy Lab

PhD Student

May 2024 - Present

University of Texas - San Antonio

- Develop lab products and research publications here: <https://secureaiautonomylab.github.io/>
- Created Landsat benchmark dataset spanning 13 years of satellite imagery across 124 cities for land surface temperature prediction—comprehensive data mining, labeling, and pipeline engineering
- Trained Masked Autoencoder (MAE) for satellite imagery representation learning
- Build and deploy digital twin microservices and full-stack product for urban planning applications
- Collaborate with CPS Energy, San Antonio Water Systems, and City of San Antonio stakeholders

### Darkan

Jan 2020 - Present

Full-Stack Developer

Remote

- Architected and contributed to 5 interconnected codebases for an open-source multiplayer game platform
- Designed RESTful API and Linux backend using Node.js / Express
- Built scalable backend services with TypeScript and MongoDB
- Developed large-scale web application (45+ pages) with server-side rendering using TypeScript + Handlebars
- Created Python-based data scraping and ETL tools for game data extraction

### Research Assistant

May 2022 - May 2023

M.Sc Student

Texas A&M - San Antonio

- Published 7 research papers on deep learning and computer networks
- Designed data pipelines for scraping, gathering, and cleaning ML datasets
- Received grant funding for research contributions

## NOTABLE PROJECTS

### Digital Twin - San Antonio

Jan 2024-Present

PhD Researcher

San Antonio, TX

- Developing digital twin platform as full-stack web application for urban infrastructure modeling
- Integrating real-time data services for city utilities and planning departments.
- Publishing research on digital twin architectures and AI-driven urban analytics

### Darkan Video Game

Jan 2023 - Present

Developer

Remote

- Engineered full-stack web application with Express, TypeScript, and MongoDB
- Optimized API-heavy pages via server-side rendering, improving load performance
- Implemented secure authentication and scalable backend architecture
- Optimized game engine graphics pipeline and server-side core structure

### Satellite Imagery ML Pipeline

Jan 2024-Present

PhD Research

San Antonio, TX

- Curated 124-city Landsat benchmark dataset with 13 years of temporal coverage
- Built end-to-end data engineering pipeline for satellite data processing
- Trained Video Transformer for on frame-by-frame remote sensing imagery with preliminary Masked Autoencoder training.

## EDUCATION

### Ph.D. in Computer Science (Machine Learning)

University of Texas - San Antonio (In Progress)

### Masters of Science - Computer Science (Summa Cum Laude, GPA 4.00)

Texas A&M - San Antonio

### Bachelor of Business - Information Systems (Magna Cum Laude, GPA 3.72)

Texas A&M - San Antonio