

# EMILIANO RODRIGUEZ

[emirodi.py@gmail.com](mailto:emirodi.py@gmail.com) || [emiliano-rodriguez.com/](http://emiliano-rodriguez.com/) || [Remote, FL](#)

## MECHANICAL & SOFTWARE ENGINEER

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Mechanical engineer with 5 years of experience building data intensive applications. Tackling challenging architectural and scalability problems in finance, aerospace, and data science including real time data streaming applications.

### EDUCATION

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UNIVERSITY OF TEXAS AT SAN ANTONIO [FALL 2016-SPRING 2019]

San Antonio, TX

- Major: Mechanical Engineering || Minor: Computer Science || GPA: 3.52

### EXPERIENCE

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ANYAR INC. [JUNE 2023-PRESENT]

Fort Walton Beach, FL

**Staff Engineer** [Granted Secret Security Clearance]

- Project Manager and Technical Lead - designed a scalable big data architecture, ETL factory, web application and API integration with Scality's object storage backend intended for AFRL's digital material management program for scientific research data.
- Coordinating diverse data requirements and management across multiple teams involved in the consumption, upload, retrieval, and processing of big data pipelines.
- Utilized agile methodologies to adapt to changing project requirements and deliverables via monthly sprint review meetings, ensuring effective communication and collaboration among cross-functional teams.

#### *Machine Learning Engineer*

- Developing mesh graph neural networks (MGNNs) for mass spring systems in a simulation environment.
- End to end training and simulation frameworks including modifying data structures and expansion of the physics engine models.

USAA [JUNE 2019-JUNE 2023]

San Antonio, TX

**Data Engineer** [Software Compliant Company]

- Bank Data and Analytics - Risk Decision Engine Team. Batch and streaming data applications using python, Apache Kafka, NiFi, Docker, Hadoop HDFS, Hive, Data stage, Snowflake, DBT.
- Control-m scheduling and data workflow automation.
- Developed a python data control framework for big data integrity and consolidation.

BROBOTICS INC. [AUGUST 2018-JUNE 2019]

San Antonio, TX

**Lead Software Developer**

- Capstone Project - an inexpensive, open-source 3D printed quadrupedal robot intended for academic research use in the Robotics and Motion Laboratory at UTSA.
- Equipped with a Raspberry Pi and O-drive motor controllers with python built software architecture.
- Robot Operating System (ROS) - physics simulation engine utilized to test and implement functionality.

ROBOTICS AND MOTION LABORATORY [SPRING 2018-JUNE 2019]

SAN ANTONIO, TX

**Research Assistant**

- Open Platform Humanoid Project - Darwin-OP2 a bipedal robot intended to research agile locomotion and increase dynamic stabilization.
- Refactored software architecture for simplistic research development and locomotion capabilities.
- Instigated outreach and demos to students and researchers interested in robotics across the San Antonio area.

### MOST PROUD OF

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- ADVANCED ROBOTICS [senior(UTSA)] – Arduino/Raspberry Pi Instructor. Teaching university students the basics of working with micro controllers, LCD, motors, LED's, and various sensors.
- AERONAUTICS & ROCKETRY CLUB [junior(UTSA)] – Vice President, Avionics/Recovery lead. Engineering rockets, working with body design, force analysis, hybrid motors. Sub projects; wireless launch controller.
- Fluent in English and Spanish, private pilot certified, open water certified, K-16th robotics instructor.