# Alexander Rodriguez

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#### **EDUCATION**

## Texas State University

San Marcos, TX

Bachelor of Science in Data Science

Aug 2025 - May 2029

Relevant Coursework: Machine Learning Algorithms, Advanced Statistics, Data Visualization, Big Data Analytics,

Cloud Computing, Artificial Intelligence

**GPA:** 3.85/4.0

## TECHNICAL SKILLS

Languages and Technologies: Python, R. Java, JavaScript, SQL, Scala, TensorFlow, Keras

Tools and Frameworks: Jupyter Notebook, Apache Spark, Hadoop, Docker, Kubernetes, Git, AWS

#### **PROJECTS**

## SmartCity Analytics - Winner at CitySolve Hackathon | Python, TensorFlow, Keras, Docker

- $\bullet$  Developed a machine learning model predicting urban traffic patterns with 85% accuracy using deep learning techniques
- Implemented real-time data processing pipeline integrating IoT sensor data from multiple city infrastructure points
- Created interactive geospatial visualization dashboard using Plotly and Dash for municipal planning

## HealthAI Diagnostic Assistant | Python, Scikit-learn, React, Flask

- Designed an AI-powered diagnostic recommendation system achieving 92% prediction accuracy for early disease detection
- Developed a robust machine learning ensemble model combining multiple classifiers for improved diagnostic precision
- Implemented secure patient data anonymization protocols compliant with HIPAA regulations

#### EcoTrack Climate Platform | R, Shiny, PostgreSQL

- Built a comprehensive climate impact tracking application for corporate sustainability reporting
- Engineered advanced carbon footprint calculation algorithms with dynamic data visualization
- Created predictive models for long-term environmental impact assessments using time-series analysis

## RESEARCH EXPERIENCE

## Research Assistant - Computational Biology Lab

Jan 2026 – May 2026

Texas State University

San Marcos, TX

- Conducted genomic data analysis using advanced bioinformatics techniques and machine learning algorithms
- Developed novel computational methods for protein structure prediction with 78% accuracy
- Collaborated with interdisciplinary research team to publish findings in peer-reviewed computational biology journal

#### WORK EXPERIENCE

Dell Technologies

#### **Data Science Intern**

Jun 2027 – Aug 2027

Round Rock, TX

- Implemented machine learning models for predictive hardware performance analytics
- Developed automated data preprocessing scripts improving data quality by 35%
- Conducted comprehensive performance benchmarking of emerging AI infrastructure solutions

#### Software Development Intern

May 2026 – Aug 2026

National Instruments

Austin, TX

- Designed and implemented microservice architectures using containerization technologies
- Created comprehensive unit and integration test suites for critical software components
- Optimized existing codebase, reducing computational complexity by 25%