Reggie Segovia

Tele: 407-719-9927 | Email: rdavidsegovia@gmail.com | Portfolio: https://rs-dkd.github.io/my-portfolio/

Education Background

University of Florida **Gainesville, FL**

- *Bachelor of Science*, Computer Science, **Summa Cum Laude** | GPA: 3.83/4.0 *01/2024 – 12/2025*
- **Relevant Courses:** *Data Structures & Algorithms, AI, Database Systems, Computational Linear Algebra, OS, VR*
- **Honors:** *Bright Futures Florida Academic Scholars Award (100% tuition), Dean's List Spring 2025*
- **Clubs:** *Tau Sigma National Honor Society: Executive Board - Webmaster, SHPE, FinTech Club, ACM, UFSIT*

Professional Experience

Chief Scientist | NASA L'SPACE *01/2026 – Present*

- Direct the science sub-team in developing a **Science Traceability Matrix (STM)** to characterize **lunar volatiles** within **Permanently Shadowed Regions (PSRs)**, establishing measurement requirements to reveal volatile origin processes.
- Lead site selection research using **NASA**'s **JMARS/JMOON GIS tools** to identify landing zones meeting strict illumination and communication constraints while ensuring **slopes under 5°** for precision landing.
- Orchestrate mission **ConOps (Phases A-B)** and instrumentation alignment with **NASA SMD goals**, managing a **$150M projected life cycle budget** and coordinating interdisciplinary personnel of scientists, engineers, and technicians.

Research Assistant, HCI Lab | University of Florida *04/2025 – Present*

- Led the development of "**Graspable Memories**," an **AI-powered projected reality system** enabling on-hand interaction with images using natural occlusion as the core interaction mechanism.
- Engineered **AI hand tracking algorithms** for real-time gesture recognition and spatial interaction, forming the basis for a research paper accepted to the **IEEE AIxVR 2026** conference.
- Architected an **autonomous agentic AI system** in **Unreal Engine** using **LangGraph** and **LangChain**, integrating a **full-stack speech pipeline** with **Whisper (STT)**, **Gemini (LLM)**, **ElevenLabs (TTS)**, and **NeuroSync.**

Web Developer | Aquarelle Realty *02/2023 – 01/2025*

- Developed **full-stack web functionalities** using **JavaScript**, **CSS**, and **MySQL**, **reducing retrieval latency by 50%**.
- Streamlined **third-party API** integrations for property and geolocation data across **10,000+ synchronized data points**.
- Architected **SEO** and performance enhancements that **drove a 30% increase** in organic search rankings and retention.

Projects

Lunar PSR Exploration Mission (NASA L'SPACE) | *JMARS/JMOON, GIS, Python*

- Developing a robotic mission concept to **map 150m²** of contiguous **PSR area** at the lunar south pole, focusing on identifying potential **resource stockpiles** to optimize astronaut time and scientific return for **future Artemis exploration**.
- Modeling **thermal gradients** and **illumination boundaries** to evaluate resource distribution in **cryogenic environments (~40 K)**, assessing rover traversability in heterogeneous terrain, ensuring mission longevity in extreme lunar conditions.
- Optimizing instrument payloads for **in-situ resource utilization (ISRU)** to convert lunar ice into consumables and propellant, strictly adhering to **150kg mass limit**, **1.5m side dimension constraint**, and **$150M life cycle budget**.

FloodRisk Digital Twins (Funded by NVIDIA) | *Python, AI/ML, Unreal Engine, Blender, ArcGIS Pro, HiperGator*

- Trained **custom machine learning model** based on **Trellis architecture** using **HiperGator high-performance computing cluster** to synthesize **high-fidelity 3D assets** for **AI-driven** building reconstruction from single images.
- Designed an immersive **VR flood simulation interface** in **UE5** with **real-time user tagging system** for perceived damage/risk assessment and **data-driven UI** for capturing subjective perceptions in immersive environments.
- Developed scalable **Python automation scripts** in Blender for high-throughput **data filtering**, **mesh optimization**, and **GLB format standardization** for large-scale urban environments (**30+ buildings**).
- Led **comparative study** evaluating procedural modeling workflows for **generating photo-realistic building models**.

Full-Stack Data Science Application: Stock Price Prediction | *Python, NLP, Scikit-learn, Streamlit, Twitter API*

- Built a comprehensive **machine learning pipeline** to predict stock price movements by combining historical market data with real-time Twitter sentiment analysis for the **top 25 most-watched stocks**.
- Implemented advanced **NLP** techniques, including **lexicon-based VADER sentiment analysis** and a **high-precision custom Naive Bayes classifier** to extract actionable market insights from unstructured social media data.
- Designed and deployed an interactive **Streamlit** web application with **real-time data visualizations**, **confusion matrices**, **Monte Carlo simulations**, and **ROC-AUC performance metrics** to support investor decision-making.

Skills

- **Programming Languages**: Python, C, C++, C#, Swift, JavaScript, Java, CUDA, SQL, PHP, HTML, CSS, Go
- **Frameworks & Tools**: React, .NET, Node.js, Three.js, SwiftUI, AWS, Git, Docker, MySQL, Oracle Database, Linux
- **AI & Machine Learning**: TensorFlow, PyTorch, CoreML, Scikit-learn, Computer Vision, NLP, LangChain, LangGraph

Publications

Segovia, Reggie D., et al. (2026). "Graspable Memories: A Sustainable Approach to Holding Personal Memories Through Occlusion-Aware Projected Interaction." *IEEE AIxVR 2026*. (Accepted / First Author)

Segovia, Reggie D. (2025). "Beyond the Grasp: Embodied Projected Mixed Reality with Volumetric Gestures and Novel Applications." *Institutional Repository at UF, Undergraduate Honors Theses Collection*. (Published / Sole Author)

Zurita, A. Y., Nosek, C. B., Grill, Brandon, **Segovia, Reggie D.**, et al. (2026). "Effects of Gestural Politeness on Comfort and Social Perception During Command-Based Interaction with Virtual Agents in Augmented Reality." *IEEE VR 2026*. (Accepted)