

# SOPHIA MANTEGARI

<http://www.sophiamantegari.com> • (904) 772-5804 • [sophiamantegari@gmail.com](mailto:sophiamantegari@gmail.com)

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## EDUCATION

### University of Miami

Miami, Florida

B.S. Computer Science, B.S. Data Science & Artificial Intelligence, Minor: Mathematics

December 2025

- GPA: 3.7

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## WORK AND VOLUNTEER EXPERIENCE

### Bonsai Computational Group

Coral Gables, Florida

Research Analyst

August 2024- current

- Partnering with an interdisciplinary team at the forefront of applied computation, leveraging expertise in computer science to address challenges across neuroscience, marketing, and quantitative finance.
- Supporting the group's mission to bridge the gap between advanced computer science and real-world applications by developing tools and methodologies that drive impactful results.

### Office of Technology Transfer

Coral Gables, Florida

Science and Technology Marketing Intern

June 2024- current

- Managing LinkedIn content for three departments, highlighting groundbreaking research and technologies.
- Creating marketing materials and simplifying complex scientific concepts to engage diverse stakeholders.
- Refining high-quality collateral in collaboration with licensing managers to ensure clarity and impact.

### Triage Logic

Jacksonville, Florida

Software Development Intern

May 2024- September 2024

- Automating healthcare operations through API-integrated Flask-based applications for patient call workflows and glucose monitoring dashboards.
- Enhancing telehealth capabilities by building secure, scalable systems using Google Cloud technologies and MySQL databases.

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## PROJECTS

GITHUB: [SMANTE2121](#)

### Spinalytics (Publication Pending)

Bonsai Computational Group

- Engineered Python algorithms for 3D dendritic spine analysis, using B-Spline interpolation and PCA for precise morphological characterization.
- Collaborated using Git to build an efficient software pipeline, integrating neuroscience and advanced data processing techniques.

### Patient Call System

Triage Logic

- Engineered a fully-deployed patient answering system using Flask, Twilio APIs, and Google Cloud Console to automate call workflows and enhance operational efficiency in healthcare settings.
- Designed a scalable architecture with Google Cloud Run and integrated a secure MySQL database, ensuring real-time data availability and reliable performance.
- Implementing advanced error-handling protocols and automated voice and DTMF data processing, leveraging full-stack development expertise to optimize user experience and streamline medical operations.

### Patient Glucose Monitoring

Triage Logic

- Developed Flask-based web applications, LibreData and DexcomTracking, utilizing TryVital and Dexcom APIs for real-time glucose monitoring and management.
- Implemented secure OAuth2 authentication, streamlined data retrieval, and built user-friendly dashboards to enhance diabetes management and patient care.

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## SKILLS AND CERTIFICATIONS

**Programming Languages:** Python, Java, JavaScript, C, SQL, HTML, CSS, C++, Perl

**Frameworks & Tools:** Flask, PyTorch, Scikit-learn, TensorFlow, Google Cloud Platform, REST APIs, OAuth2, Git, Docker

**Technical Skills:** Algorithm Development, Data Analysis, Machine Learning, Full-Stack, Database Development

**Software:** Microsoft Office Suite, Adobe Photoshop, Adobe Illustrator