Sophia Rodriguez

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Education

University of California, San Diego — La Jolla, CA
Bachelor of Science in Biomedical Engineering — Aug 2024 – May 2028
Relevant Coursework: Biomechanics, Medical Imaging, Tissue Engineering, Biostatistics, Molecular Biology, Medical Device Design

GPA: 3.85/4.0

Technical Skills

Languages and Tools: MATLAB, Python, R, SolidWorks, ImageJ, SPSS

Technologies: 3D Bioprinting, Microfluidics, PCR, Cell Culture, Medical Imaging Software

Projects

Biodegradable Tissue Scaffold | *MATLAB, 3D Printing*

- Designed a novel biodegradable scaffold for bone tissue regeneration
- Optimized material composition for improved cell adhesion and growth
- Conducted mechanical and biological performance testing

AI-Powered Medical Diagnostic Tool | *Python, Machine Learning*

- Developed machine learning algorithm for early cancer detection
- Implemented image recognition techniques for medical imaging analysis
- Achieved 92% accuracy in preliminary diagnostic predictions

Wearable Health Monitoring Device | *Arduino, Sensor Design*

- Created a low-cost wearable device for continuous health monitoring
- Integrated multiple biosensors for real-time physiological data collection
- Designed user-friendly interface for data visualization

Research Experience

Undergraduate Researcher - Regenerative Medicine Lab — Jan 2023 – Present
University of California, San Diego — *La Jolla, CA*

- Investigating stem cell differentiation techniques
- Developed novel protocol for neural tissue regeneration
- Presented research findings at undergraduate bioengineering symposium

Work Experience

Medical Device Engineering Intern — Jun 2023 – Aug 2023
Medtronic — *Minneapolis, MN*

- Assisted in development of next-generation cardiac monitoring devices
- Conducted comprehensive performance and safety testing
- Collaborated with cross-functional engineering teams

Biotech Research Assistant — May 2022 – Aug 2022
Scripps Research Institute — *La Jolla, CA*

- Supported advanced molecular biology research projects
- Performed complex laboratory procedures and data analysis
- Maintained detailed research logs and documentation