

# Arianne Villavicencio

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## Education

**New York University**, Abu Dhabi, UAE.

*B.A. in Social Research & Public Policy*

*Concentration in Computer Engineering and Interactive Media*

*Full-Ride Scholarship Recipient*

**Relevant Technical Coursework:** Advanced Digital Logic, Tissue Engineering, Computer-Aided Design, Bioengineering Principles, Computer Programming for Engineers.

## Experience

### Student Research Assistant

*The Vijay Lab – Medical Devices & Bioprinting, Abu Dhabi, UAE*

Feb 2025 – Present

- Conduct research on hydrogel formulations (GelMA) for 3D bioprinting in regenerative medicine.
- Utilize microfluidics and microscopy to analyze biomaterials for cell viability and mechanical integrity.
- Develop and test bio-scaffold prototypes for applications in bone and soft tissue repair.

### Researcher – Engineers for Social Impact

*Urbz, Mumbai, India (Koliwada, Dharavi)*

Jan 2025 – Present

- Conducted ethnographic and technical research on water sanitation challenges in manmade ponds used by the Koliwada fishing community.
- Interviewed local fishermen to understand intergenerational knowledge, ecological degradation, and community needs related to pond maintenance.
- Designed and proposed non-invasive, nature-based silt removal solutions—such as moringa seed flocculation and reed bed filtration systems—to improve water quality.
- Presented proposed interventions to community members, integrating local feedback into the final ecological design.

### Admissions Ambassador

*New York University, Abu Dhabi, UAE*

Aug 2024 – Present

- Represent NYUAD by leading campus tours and engaging with prospective students and families.
- Deliver presentations highlighting NYUAD's academic opportunities, student life, and career support.
- Provide cross-cultural communication support via email, phone, and in-person interactions.
- Support flagship admissions events (Candidate Weekend, Campus Tours) by assisting panels, guiding families, leading Q&A sessions, and managing event logistics.

## Leadership & Impact

### Founder and President – Operation Smile Club

*Colegio Teresiano de Managua*

Jan 2020 – Dec 2022

- Established and led a student-run initiative supporting children in need of cleft lip and palate surgeries.
- Raised \$450+ through fundraising campaigns, directly funding surgical procedures.
- Organized awareness workshops and community engagement programs involving 100+ student volunteers.

### Team Leader – FIRST Global Challenge Nicaragua

*Fundación Zamora Terán*

Oct 2021 – Nov 2022

- Founded Nicaragua's first national robotics team, leading strategy and innovation efforts.
- Designed and built **ARIA**, a robotics prototype supporting autistic students, integrating Arduino and AI.
- Developed a CubeSat prototype for disaster response, modeling real-world satellite deployment strategies.
- Facilitated STEM outreach programs, engaging over 600 students in hands-on engineering workshops.

## Skills

- **Programming:** Python, MATLAB, C++, C, R
- **Engineering:** 3D Bioprinting, Circuit Design
- **AI/Automation:** Prompt engineering, Git/GitHub workflows, Data analysis
- **Software:** SolidWorks, Adobe Illustrator