Anthony Morales

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EDUCATION

Rice University Houston, TX
Bachelor of Science in Bioengineering *Class of 2028*

- Relevant coursework: CHEM 121, CHEM 123, CHEM 211, PHYS 101, PHYS 102, MATH 211, MATH 212, CMOR 220, BIOE 252, MECH 202.
- 2023 QuestBridge College Prep Scholar and Match Recipient.
- Active member of HACER (Hispanic Association for Cultural Enrichment at Rice), Rice iGEM & Robotics.

RESEARCH EXPERIENCE

Michael R. King Laboratory, Rice University Houston, TX
Undergraduate Researcher — Cancer Bioengineering *Jan 2024 – Present*

- Engineered reproducible 3-D prostate cancer spheroids using the Superhydrophobic Array Device (SHArD) and multi-channel confocal microscopy.
- Developed a MATLAB pipeline for batch processing confocal Z-stacks, enabling 3-D nuclear segmentation, cluster masking, and quantitative feature extraction.
- Extracted per-nucleus geometric and fluorescence metrics to analyze tumor–CAF spatial organization and cluster heterogeneity.

Franz Research Group, Duke University Durham, NC
Laboratory Intern — Chemical Biology *Jun 2023 – Aug 2023*

- Investigated Cu(II)–lipoic acid binding using UV-Visible spectroscopy (200–800 nm) and controlled titrations with DTT and TCEP.
- Analyzed absorbance shifts to characterize complex formation, competitive displacement behavior, and binding dynamics.
- Prepared buffered solutions, maintained concentration controls, and supported experimental design for biologically relevant peptide-bound models.

LEADERSHIP

Will Rice College Student Government Houston, TX
Socials Head; Sophomore Class Representative *Aug 2024 – Present*

- Planned and executed large-scale residential college events, managing logistics, vendors, safety planning, and budgets.
- Coordinated with student leaders and administration to deliver inclusive programming and represent sophomore concerns in governance discussions.

Peddie Robotics (FRC Team 5895) Hightstown, NJ
Senior Programmer; Head Scout & Strategy Lead; Finance & Marketing Lead *Sep 2021 – May 2024*

- Led data-driven match strategy using OPR, EPA, and EPR metrics to inform alliance selection and playoff performance.
- Served as sole on-field alliance representative while overseeing scouting infrastructure and autonomous/teleop programming support.
- Secured and maintained $35,000+ in annual sponsorships through outreach, proposal development, and sponsor reporting.

ADDITIONAL INFORMATION

- **Technical**: MATLAB, Python, image processing, confocal microscopy, UV-Vis spectroscopy, FIJI/ImageJ.
- **Laboratory**: 3-D cell culture, fluorescence labeling, microscopy preparation, titrations, buffer preparation.
- **Interests**: Cancer bioengineering, computational biology, robotics, science communication, student leadership.