

# ALYSSA PLAYER

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## Education

**M.S. in Data Science, Boston University**

August 2025 – Present

Anticipated Graduation: December 2026

**B.A. in Biology, Occidental College**

August 2020 – May 2024

Honors in Biology for Independent Research Thesis

**Google Data Analytics, Coursera**

October 2024 – August 2025

Professional Certificate

## Experience

**Research Technician, Beacon Center for Single Cell Biology / Björkman Lab**

July 2024 – Present

*California Institute of Technology, Pasadena, CA*

- Perform high-throughput antigen reactivity screening (~20k samples/run) on the Beacon Opto-Fluidic System, contributing to discovery of novel therapeutic candidates
- Execute downstream cloning and intermediate QA/QC to deliver results to clients within a ~5-week turnaround
- Develop reusable data-entry templates in Google Sheets/Excel and JavaScript functionality to streamline formatting, version control, and collaborative analytic workflows
- Facilitate biweekly meetings with supervisors and clients to align project goals, timelines, and deliverables through transparent communication
- Produce publication-quality graphics and data visualizations to communicate findings through academic posters and web platforms

**Research Assistant, Vantuna Research Group**

February 2022 – May 2024

*Occidental College, Eagle Rock, CA*

- Completed a two-year independently driven Honors Thesis analyzing artificial reefs as conservation habitats for climate-threatened species along the Southern California Bight, using R for statistical analyses
- Collected and processed field samples weekly for government-funded monitoring projects, contributing to one of the longest continuous and largest spatial-scale studies of rocky reefs in the Southern California Bight
- Transcribed and analyzed a large quantitative field dataset in Excel, supporting QA/QC for long-term reef monitoring
- Mentored 5–10 new students per semester in lab techniques, sample collection, and data entry during weekly office hours
- Trained in substrate population transects on SCUBA to collect field data for quantitative population surveys
- Collaborated as a Richter Trust Scholar with the Discovery Bay Marine Lab (Jamaica) on a two-week reef monitoring and coral restoration project, tracking organismal growth and recruitment

## Publications

Keeffe, J. R., Malecek, K. E., Alvarez, J., Player, A., West, A. A., Gnanapragasam, P. N. P., Segovia, L. N. & Bjorkman, P. J. (2025). Cross-reactive single domain antibodies from single B cells induced by mosaic RBD nanoparticles in llama. [Manuscript in preparation]. Biology and Biological Engineering Division, California Institute of Technology.

Player, A., Muñoz-Williams, C., Pondella, D. (2025). The role of the Palos Verdes reef as refugia for climate-threatened sea stars and sea urchins. [Manuscript in preparation]. Biology Department, Vantuna Research Group, Occidental College.

## Volunteer Work

Caltech Green Labs

2024-Present

Letters to a Pre-Scientist Program

2024-Present

## Awards & Research Funding

Marty Morton and Maria Pereya Award for Integrative Approach to Organismal Research

2024

Richter Scholar for Research Abroad

2024

Roberts Fellowship for the Natural Sciences

2023

URC Summer Research Program

2023

Academic Student Project Spring

2023

Howard Swan Award Scholarship

2020 – 2023

## Skills

Technical: Programming (Python, R/R-Studio, SQL, JavaScript, HTML, JSON), Data Visualization (R-Studio, Tableau, Looker), Data Management, Data Mining, Statistics, Version Control (Git/GitHub), Prism, MS Office, Google Suite

Languages: Intermediate French, Beginner Spanish, Beginner Tagalog