Isaac Ceballos

Your Background and Experience

This section of the survey aims to gather information about your expertise in these areas to ensure that our board is equipped with the necessary skills and experience to effectively lead and support our mission. Your responses will help us assess your fit for a potential board role and identify areas where we may need additional training or support.

We don't expect any candidate to have relevant background in all these areas. Please respond to the topics for which you do bring experience, and feel free to skip the others.

Strategic Plan Implementation

The new strategic plan expands AAVSO's mission and goals to encompass all aspects of astronomy where amateur activities (making observations, analyzing data, and educating the public) can contribute to scientific discovery. Our focus is now on implementation, working closely with the Executive Director to enhance current programs and develop new initiatives that will help achieve these goals.

How much experience do you have with strategic planning and implementation? Moderate Experience: Actively participated.

Please describe your experience and accomplishments in strategic planning and implementation.

At Porterville College, I was a co-writer of SHPE's first-ever three-year plan; we crafted SMART objectives and tracked progress on key performance indicators (KPIs) using Trello, resulting in a forty percent increase in event attendance within one year. Through the Student Leadership Institute, I participated in an eight-week collaborative effort for a capstone project that provided a service-learning plan for the campus, of which my focus was the assessment dashboard and any adjustments needed along the way. During my summer REU, despite being given less than the anticipated amount of telescope time, I reorganized the schedule for my remaining observations. Despite the limited time, I still produced results on the flares of EV Lac worthy of publication.

Please discuss your willingness to critically assess the implementation and effectiveness of the Strategic Plan if performance metrics and "gut feel" show that the plan is NOT working? Do you have experience with plans that failed to perform as expected?

I'm not shy about critiquing a plan's shortcomings. For example, in SHPE we sunset a mentorship application because after two failed sprints, we decided to pivot and focus on live

study halls which doubled our tutor hours. I would apply that same data-driven mentality to the AAVSO project and suggest changes based on analytics and member feedback.

Governance and Oversight

Governance and Oversight, including policy development, financial oversight, resource allocation, program evaluation.

How much experience do you have in Governance and Oversight? Moderate Experience: Actively participated.

Please describe your experience and accomplishments in the area of governance and oversight.

As president of SHPE, I held executive meetings every month, took minutes, and managed a \$2,000 club budget. SLI training exposed me to nonprofit bylaws, Roberts Rules, and conflict-of-interest scenarios, which I applied when my club collaborated with a donor group that donated laptops to us. During my REU, I was tasked with assessing budget justifications related to my PI's telescope nights and relaying expenses to him. These helped me become confident in structuring meeting agendas, maintaining a budget, and making and communicating decisions impartially.

Advocacy and Public Relations

Including community engagement, campaigns and initiatives, being a spokesperson, event promotion, application of social media, storytelling, media relations, product and organization branding, government agency relations:

How much experience do you have with Advocacy and Public Relations? Moderate Experience: Actively participated.

Please describe your experience and accomplishments in the area of advocacy and public relations.

I often guest lecture at nearby high schools and my community college on variable-star observing and my engineering career, empowering hundreds of students to understand that amateur scientists can contribute to real research. As a Student Leadership Institute ambassador, I wrote and shared a press release for a renewable-energy workshop, which was published in the campus newsletter, and answered questions posed by local journalists. I designed graphics for my SHPE chapter's social media campaign for our annual STEM festival, and I posted thank-you messages reminders that kept attendees engaged afterward.

Fundraising

Including managing fundraising campaigns, soliciting sponsors, cultivating donors, preparing or evaluating grant proposals, building partnerships.

How much experience do you have with Fundraising?

Basic Experience: Assisted, or have basic understanding.

Please describe your experience and accomplishments in the area of fundraising.

My involvement with SHPE included co-planning and implementing a mini crowdfunding campaign that financed our outreach kits and workshops materials. I contributed to the Porterville College Foundation proposal for our telescope project by completing the budget spreadsheet and justifying the need for upgraded accessories to enhance data collection. Through the Student Leadership Institute, I worked on a productive team that submitted a fundraising proposal to student government for a campus food-pantry; we were granted first-round funding to launch the project.

Education and Training

For life-long adult learners will be an important initiative for AAVSO in the next few years (including identification of learning objectives, development of classes/curricula, interaction with colleges/universities and grant agencies, assessment of effectiveness).

How much experience do you have with Education and Training?

Moderate Experience: Actively participated.

Please describe your experience and accomplishments in the area of Education and Training.

I designed and taught an AstroImageJ workshop for incoming REU students, covering image calibration, aperture photometry, and light-curve production, over four sessions. To facilitate their continued independent efforts, I designed a step-by-step Python notebook that retrieves AAVSO light-curve data and produces a quick plot in under ten minutes; the director of the astronomy lab now shares it as an optional resource with future students. My SLI class included developing and presenting an interactive micro-lesson on frameworks through live polls to actively engage new cohort members.

Astronomy Research Projects

Identifying and pursuing Astronomy Research projects with Citizen-science activities will be an important initiative for AAVSO in the next few years (including identifying research questions/problems, recruiting participants, organizing and leading teams, defining approaches, forming professional-amateur collaborations, identifying funding needs, evaluating interim results and course-corrections, reaching conclusions, publication).

Please describe your experience and accomplishments in the area of Astronomy Research Projects

I was the primary researcher for my flare project on EV Lacertae, which required me to conduct nightly observations, perform differential photometry in AstroImageJ, and write Python scripts to flag flare candidates for further analysis. I presented my results at the REU symposium and am currently co-authoring a short paper for JAAVSO with my PI. I also obtained time-series data on several other M-dwarfs during the REU and submitted those frames to a shared REU database for future researchers to utilize.

How much experience do you have with Astronomy research projects

Advanced Experience: Lead a successful team.

Citizen Science

AAVSO is one of the oldest and most respected Citizen Science organizations in the world. Expanding on this legacy will be an important initiative during the next few years (including engaging participants both within and beyond the AAVSO community, expanding opportunities for collecting new data and for mining existing databases, maintaining primary focus on achieving tangible scientific outcomes, engaging both professional and non-professional participants, maintaining communication among team members).

How much experience do you have with Citizen Science

Moderate Experience: Actively participated.

Please describe your experience and accomplishments in the area of Citizen Science

I am one of the undergraduate coordinators at RetroSkies Lab, a remote endeavor that converts archival sky plates into digital format for volunteers to recover historical magnitude data for variable stars. I onboard new volunteers, facilitate a short video tutorial that acclimates them to plate alignment and differential photometry, and manage the Discord support channel where posts are answered within a day. In addition, I composed a simple Python script that imports completed readings into a shared Google Sheet used by the project director for data validation. Collaborating with both amateurs and professionals has taught me the best ways to keep volunteers motivated, how to provide positive reinforcement, and how to translate technical jargon into accessible terms.

Please describe your experience in areas that are NOT science oriented but might provide insight into promoting effective citizen science. For example, many of the challenges of running an arts organization may feed directly effectively managing and motivating volunteers in a Citizen Science organization.

While president of SHPE, I led 20 person team, delegating tasks based on personal interest and keeping morale high through small but meaningful accomplishments. At the Student Leadership Institute, I co-founded a food pantry on campus where there was a clear need, successfully pitched for start-up funds and trained the volunteers who would operate it. Additionally, I was on

the teen advisory board for the local art museum creating exhibits made by teens for teens and ensuring community buy-in as we promoted events and kept teens engaged as volunteers with limited resources. I honed my skills in volunteer recruitment and management, role assignment, and motivation all crucial to the successful implementation of citizen-science projects.

Other skills & experience: What experiences and skills in your background – NOT directly related to the AAVSO – do you think would be valuable for the AAVSO? We need people who bring diverse perspectives and experiences to the organization.

As a young scholar, I understand how to effectively engage the next generation of observers and contributors. As a first-generation college student from a historically underrepresented population in STEM, I have a unique voice that reflects communities that science and astronomy often overlook. Moreover, My age doesn't diminish my accomplishments; it enhances them. I have taken on leadership opportunities, group outreach, and extensive research endeavors, all before academic career has even begun. My work will be impactful and meaningful because of an innovative approach, and my flexibility will guarantee a commitment to scientific accessibility and inclusion for all.

Your current/past involvement with AAVSO

This section of the survey is designed to gather information about your experience with the AAVSO. Understanding your familiarity and involvement with our organization helps us assess your potential contributions as a board member and ensures that we have a diverse range of perspectives and expertise to guide our mission. Your insights are invaluable in helping us build a stronger, more effective leadership team.

How many years have you been involved with the AAVSO (as a member, a non-member participant, or in other ways)?

for about 3 years as a non member

Why do you want to serve on the AAVSO Board of Directors?

I want to help expand AAVSO's reach to the next generation of scientists, especially those from underrepresented backgrounds.

What are your current and past activities involving AAVSO?

I also promote AAVSO's educational value through my roles with SHPE and the Student Leadership Institute. And continue to use the light curve database for my research.

In your opinion, what are the greatest strengths of AAVSO?

AAVSO's strongest assets are its data archive, its dedication to amateur-professional collaboration, and its long history of scientific contributions from nontraditional paths

If elected to the Board, how would you help AAVSO translate those strengths into opportunities?

2024 AAVSO Board Candidate Questionnaire: Isaac Ceballos

I would focus on developing entry points for newer and younger members: beginner-friendly training pipelines, more guided project templates, and connections to college courses.

In your opinion, what are the greatest weaknesses of AAVSO?

AAVSO can appear intimidating or outdated to new audiences. Some of its tools and documentation assume a level of background knowledge that not all potential contributors have.

If elected to the Board, how would you help the AAVSO effectively meet those challenges?

I'd support projects that simplify the onboarding process: clearer tutorials, modernized data tools (like Jupyter notebooks), and community mentorship efforts.

In your estimation, does the AAVSO run the risk of becoming too narrow, when the Strategic Plan (see above) suggests a continuing need to adapt to changing conditions and to think laterally?

Yes, and that's why perspective diversity is essential. The risk isn't intentional, it's structural. Without fresh voices and active outreach, AAVSO could become siloed.