

## **Diversity, Equity, and Inclusion Statement – James Bowden**

I feel strongly that computer science, machine learning, and STEM in general should be accessible and inclusive. To that end, I am committed to helping create and maintain safe spaces for individuals to be themselves in what ways I am able. Central to this is the understanding that people of all backgrounds, especially those different from mine, have valid experiences, feelings, and identities. This also means that different people have different needs, which we can only begin to understand and accommodate by listening. As such, my efforts have focused on being an ally/listener and working to support/advocate for others in the ways that work best for them. I acknowledge that I have been very privileged in a number of ways, and strive to use that privilege to advocate for others and break down extant inequities and the systems that reinforce them.

### **“Bridge” Teaching Between CS 1 and CS 2**

As Head TA for Caltech’s CS 2 last year, I helped develop and run a special “bridge” section to provide additional support for students who struggled in the first few weeks of the course. This matters because students enter Caltech with varying degrees of CS exposure and CS 1 is a pass/fail only course, meaning that some students inevitably enter CS 2 underprepared; this is amplified for students in disadvantaged or minority groups. I worked with the teaching professor to compile a list of students to offer membership into this group (importantly, optional and self-selecting and not framed as “remedial”) based on grades, office hour interactions, and comments from other TAs. We selected a “bridge TA” to lead this group, and I supported her throughout the term with organization, content development, and adapting the experience to best support the students’ specific needs as we came to better understand what those were. We received overwhelmingly positive feedback on this (see testimonial below) and are expanding it in the upcoming term, including training and supporting a new bridge TA. We published our method and findings at RESPECT 2022 ([https://james-bowden.github.io/pages/teaching/bridge\\_group](https://james-bowden.github.io/pages/teaching/bridge_group)).

*“Coming into CS 2, I was very intimidated as I heard from many people (including Prof Adam Blank) that CS 2 is significantly more difficult than CS 1. But because of the bridge group, I was able to grow at a relatively fast pace. So much so that CS 2 has been a noticeably less struggle for me than CS 1, and more fun as well.”*

--Anonymous CS 2 student in the bridge program

### **Pre-College CS for Underrepresented Students**

Last summer, I served as TA for a pre-college intro CS course for ~50 students admitted to Caltech from disadvantaged backgrounds. The course assumes no prior CS experience and aims to prepare students for the introductory CS sequence and to give them the tools to perform research in other fields later that same summer (e.g., data analysis, basic robotic control or machine learning). I helped develop programming assignments tailored to this group, provided individualized live guidance during daily lectures, and supported students during office hours and on capstone programming projects of their own choosing.

### **Committee Service**

This year, I was asked to serve on the Caltech CMS department’s diversity, equity, and inclusion committee, where I advocate for underrepresented undergraduates and work to improve various facets of departmental treatment of identity. One initiative I suggested and have pushed is to create a more accessible and hence equitable matching system for undergraduate research opportunities (summer/school year), as these positions are usually not advertised and go to students who persistently contact professors. This disproportionately hurts students from disadvantaged backgrounds, so we are developing a central platform where all students can view/apply to postings from CS professors/graduate students/postdocs (which also improves the student-group matching process generally too, so everybody wins!).

## **Teaching & Mentorship**

Broadly, an important part of teaching is meeting each student wherever they are. I attempt to do this as well as possible at my TA office hours by determining a student's level of understanding before proceeding. This matters because assuming a blanket context (based on the majority) can be very harmful (not to mention, ineffective) for minority students.

As much of the good in my academic career has been enabled by a few wonderful mentors, I try to be approachable and offer that service to anyone who asks. I've mentored 10-20 younger undergraduates at Caltech in various contexts (CS major, machine learning, finding research, getting involved with teaching, tech internships, etc.), some of whom have been from disadvantaged groups. I feel strongly about the positive effect of thoughtful mentorship and am very excited to mentor less experienced researchers as a graduate student.