“The needs of the many outweigh the needs of the few”—Spock, *The Wrath of Khan.*

It should be no surprise that the *Star Trek* shows and films rank among my favorites, but while Kirk and I may share a name I’ve always felt a greater connection to the Enterprise’s science officer. I’ve embraced this communal Vulcan ideology from an early age—family circumstances forced me to grow up faster than I might have liked, and by age 14 I had become a semi-parent as the eldest of four children while my newly single mother worked multiple jobs to provide for us. This sudden transformation from carefree boyhood to pseudo-adulthood provoked a lot of serious introspection—the most powerful result being the realization that even a minute change in initial conditions could have drastically altered who I was, what I believed, and how I interacted with the world. This profoundly simple realization left me with the foundations of a robust set of internal ideals but it came at great cost—it ostracized me from the paternal half of my family as I made the difficult choice to leave the fundamentalist religion I was raised in. The core tenants of who I am today are still rooted in that early teenage realization—that our lives are determined largely by circumstances outside our control, and that those gifted with privilege should use that gift to uplift instead of subjugate. UCSC’s morals (and indeed the entire UC system’s morals) are very similar to mine—an important point that strongly motivates my application to your program as I aim to embody these values as a future professor, both through collaborative research and teaching.

The largest reason I want to complete an advanced degree in astrophysics is because I’m transfixed by the subject—it’s the intersection of science and dreaming. I am passionate both about increasing my own understanding as well as spreading the good word to others, and I’ve been fortunate to have many fulfilling opportunities to put my personal ideals to work in concert with my passion for physics, the most impactful of which has been my experience volunteering in our local prisons. Last year I read a moving book by civil rights lawyer and activist Bryan Stevenson entitled *Just Mercy*, which imparted upon me a new belief—we are all better than the worst thing we’ve done. I was inspired by this text to start a program in a local prison teaching physics and coding (in Python) skills to inmates, and it’s been the most rewarding thing I’ve ever done. These are people society has largely discarded, yet nearly all of them are inherently good people who made a bad choice, with many additionally being the victims of poor circumstances, societal prejudices, and unjust laws. I empathize greatly with those of different circumstances like the inmates I’ve worked with because I can see how easily—with a few different choices or circumstances—I could have been among them. The inmates I’ve worked with have expressed more gratitude towards me than I knew possible, and it’s truly transformative to see a glimmer of hope take hold in a population who have been stripped of most possibilities. Since starting this outreach endeavor at the beginning of the year some local news reports have been done on my work, which has enabled me to expand into a second prison as well as recruit new volunteers to offer services in a variety of disciplines for this incredibly underserved population. I plan to keep up this momentum so that when I leave for graduate school there is a strong program in place that will continue without me, and I hope to continue serving in a capacity similar to this in Santa Cruz.

While I have no regrets, my embrace of this collective philosophy has not been without personal cost—I’ve forgone opportunities in order to stay close and support my family while my mother has worked tirelessly to rebuild her career. My mother is one of my biggest role models, and I’ve always known that I’ve wanted to follow in her footsteps in pursuing an advanced degree—she recently completed an educational doctorate program and secured her first professorship at a local community college. I’ve also learned from my mother how to work hard—money has always been tight for us and I’ve had to find a way to pay for my education on my own, often working more than 30 hours a week while in school to pay the bills. My close friends and family have been an incredible emotional support system, and I’ve been fortunate to find a generous financial support system to supplement that work in scholarships and Pell grants—I’m incredibly grateful for the collective village that has enabled me to get this far.

I’ve taken five years to complete my degree largely because I find nearly everything fascinating—as a result I’m a well-rounded student whose collected minors in both music and applied mathematics. Originally I did not intend to major in physics, but the physical applications of calculus sparked an interest in me, which—after taking my first real physics courses—quickly kindled a great fire. I’ve engorged myself in nearly all the courses our department offered even when not required, and while I’m proud to have maintained a 4.0 GPA in my physics coursework I’m even prouder to feel as if I’ve internalized even the smallest inkling of how our universe works. I relish the opportunities where I get to impart this knowledge to others—seeing the light in someone’s eyes as everything clicks in a blissful epiphany is often even better than having the experience yourself, and this is one of the reasons I’m so passionate about teaching and outreach.

While I enjoy being a physics evangelist of sorts, I’m also passionate about exploring the unknown—to boldly go where we haven’t gone before. I’ve been privileged to find a wonderful professor and mentor—Prof. Daryl Macomb—who I’ve worked intimately with outside of my usual coursework in learning the practical details involved in studying the mysteries of the cosmos. As a result I am confident I can distill my innate curiosity into tangible data and analysis, something that’s recounted in further detail in my statement of purpose. I hope to remain in academia as long as possible—helping both to unlock some tiny part of the cosmos as well as to inspire and uplift others in the field through teaching and outreach. The UC system fosters diversity in ways few institutions do, and from my experiences in speaking to current grad students the department culture is incredibly collaborative and supportive—it’s imperative to me that my future work not be done in an echo-chamber, but instead with the input and counsel of a plethora of others from as many backgrounds as possible. I’m very impressed by the powerful intersection of research, collaboration, and diversity that happens at UCSC—something that I’d be honored to be a part of. To that end I humbly submit my application to your astrophysics program, that together we might gain some new understanding of the cosmos while simultaneously making it a little better for everyone along the way.