Kirk Long—Personal Statement—Berkeley Astrophysics

Evolution dictates that organisms without enough diversity in their gene pool will perish, and while I am not a biologist and we may not be porpoises in the Galapagos the scientific lessons learned there apply far outside the origins of species. I am often amazed when I ponder the great advances of modern science, yet I am horrified when I consider the fact that nearly all that progress has come from a tiny niche of society often at the expense of everyone else. For too long those in positions of power have used their privilege to oppress, and I know that as a result we have sacrificed much potential progress. I have struggled with my role in fixing this problem, yet after much self-reflection I have come to a few powerful conclusions that inform who I am and why I feel so strongly not just about studying astrophysics, but about studying at Berkeley.

Berkeley 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 recognize that the successes I’ve enjoyed thus far in life are largely the products of privilege and an incredible support system—hard work is just the tip of a largely unseen iceberg. I choose to use my privilege not to suppress others, but to uplift and raise a more diverse chorus more powerful than any one voice could ever be alone. One particularly fulfilling practical implementation of this philosophy I’ve had is in my work in some of our local prisons, where I’ve started a program teaching introductory programming in Python as well as doing general STEM outreach labs/demos, using my knowledge to enable future possibilities for those whose circumstances haven’t been as supportive as mine. It’s truly transformative to see the glimmer of possibility take hold in a population who often believe they won’t ever be able to live a normal life again, let alone participate in the sciences. I hope to find people to continue what I’ve started here before leaving for graduate school, and hope to continue serving in a capacity similar to this at Berkeley.

I empathize greatly with those of different circumstances partly because it’s incredibly easy for me to visualize how a few different circumstances or choices in my life could have drastically altered the outcome, a realization responsible for a crippling sense of existential dread 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 to the eldest of four while my newly single mother worked multiple jobs to provide for us. This coming of age resulted in a lot of serious introspection, which left me with the foundations of a powerful new internal set of ideals but also ostracized me from the paternal half of my family as I left the fundamentalist religion I was raised in. My mom has always placed great emphasis on academic excellence and I’ve always wanted to follow in her footsteps in attaining an advanced degree, but without the generous financial support of scholarships and Pell grants I would not have been able to do so. Even with that support I’ve often worked more than 30 hours a week to make rent, something that’s forced me to learn to manage my time effectively in order to continue to succeed in my work, volunteer, and scholarly commitments.

I’ve taken five years to complete my degree because I love too many things—as a result I’m a diverse and well-rounded student whose collected minors in both music (I’d love to learn to play the Berkeley Campanile!) and applied mathematics. Originally I did not intend to major in physics, but the physical applications of calculus sparked an interest in me. After taking my first real physics courses that spark kindled a great fire, and I’ve engorged myself in nearly all the courses our department offered even when not required. I’m proud to have maintained a 4.0 GPA in my physics coursework, but I’m even prouder to feel as if I’ve internalized even the smallest inklings of how our universe works.

I’m most fascinated by physics at the grandest of scales, and by the seemingly endless possibilities that exist for diverse systems in the cosmos—this led me add an astrophysics emphasis to my degree. Despite my academic successes in the field, I have worried that I might not be a capable of explorer and struggled with overcoming imposter syndrome. Because of my complicated family and financial situational constraints I’ve never been able to go far from home and thus could not participate in any REUs. Furthermore opportunities within my department are limited as only two professors do active research in astrophysics. As a result of these circumstances and anxieties I’m a late bloomer in research, but I am proud to say that I’m now confident I can distill my innate curiosity into tangible data and analysis. Since starting this spring and working through the summer I’ve gained an incredible wealth of practical knowledge which is further detailed in my statement of purpose. Once I realized I loved research as much as I loved teaching and learning I knew I had to continue in getting a Ph.D.

Astrophysics is the intersection of science and dreaming, and I hope to remain in academia as long as possible—helping both to unlock some tiny part of the cosmos as well as to evangelize and uplift others in the field through teaching and outreach. There is no other place in the cosmos where research, collaboration, and the strength of diversity collide like they do at Berkeley—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.