Cover Letter

Suraj Rampure

Dear Search Committee,

I am writing to apply for the Assistant Teaching Professor position in the Halıcıoğlu Data Science Institute at the University of California, San Diego. I am currently pursuing an MS in Electrical Engineering and Computer Science at UC Berkeley, which I will complete this May. I have over three years of experience teaching at Berkeley; this includes a semester as the instructor of a regularly offered course (with another semester coming this spring), eight semesters of experience as a teaching assistant (GSI) across five unique courses, and an additional two semesters as the instructor of a student-run course I developed. My work as an educator has been well-received by students and faculty alike; I received Berkeley's Outstanding GSI Award as a sophomore undergraduate as well as Berkeley EECS' Distinguished GSI Award this past academic year. I am unbelievably fortunate to have been under the tutelage of world-class teachers in computer science and statistics, including my advisor Josh Hug, John DeNero, Dan Garcia, Ani Adhikari, and Fernando Pérez.

Much of my experience has been with Data 100, Principles and Techniques of Data Science, Berkeley's 1000-student intermediate data science course that teaches modern data analysis tools and introductory machine learning. I was a head TA for four semesters, where I managed grading infrastructure, helped write exams and assignments, gave guest lectures, and managed a teaching staff of over 40 students, in addition to teaching sections and holding office hours. In Summer 2020 I was the instructor, and given the COVID-19 pandemic, I was tasked with reformatting the course to be optimized for remote delivery. I piloted a number of changes that were designed to provide our over 300 students with flexibility in how they learned, but also a sense of accountability. Among these changes were a new asynchronous lecture format (example), a synchronous supplemental lecture session, multiple discussion section models (synchronous, asynchronous, and flipped), and two different remote examination platforms. As evidenced by weekly student surveys and official evaluations, the course was very well received, and many of the changes from the summer have been carried over to the fall. This includes the same asynchronous lecture format and even many lectures that I recorded over the summer. My co-instructor, advisor, and I have authored a paper on our lessons learned from this offering and it has been accepted to the Proceedings of the 52nd ACM Technical Symposium on Computer Science Education; I also shared many of these ideas with other educators at the UC Berkeley-hosted 2020 National Workshop on Data Science Education.

I also have experience creating and teaching courses designed to broaden participation in computing. As an undergraduate, I created and taught Introduction to Mathematical Thinking (IMT), a student-run course designed to introduce students to discrete mathematics in a low-stakes environment. It served to ease the transition into the EECS program's rigorous required Discrete Mathematics and Probability Theory course. The course was offered for two semesters to over 160 students total, and all of its materials are available freely online (imt-decal.org). In addition, I am currently developing a new course, Introduction to Computational Thinking with Data (data94.org), loosely based on a prior offering. Data 94 will be a small-scale CS 0.5 designed to attract students from non-technical backgrounds to the data science major. Unlike IMT, which was a student-run course, Data 94 is offered through the standard channels and I am

fortunate to have the opportunity to teach it. Its design and implementation will be the focus of my Master's thesis.

Outside of the classroom, I have dedicated a significant portion of my time to mentoring other students and helping bolster the undergraduate teaching program at Berkeley. For instance, as a leader of Berkeley's First-Time GSI conference for CS GSIs, I shared tips and experiences with budding teaching assistants in order to alleviate their fears of teaching. And, as a panelist and moderator of Berkeley EECS' Student Life Panel for newly admitted undergraduate students, I gave them insight into what it's like to be a Berkeley student and guided them as they planned their undergraduate careers. I cherish such opportunities and will seek them out in my next stage.

I am particularly interested in UCSD due to its collaborative nature and strong student body. I appreciate that there is an undergraduate teaching assistant program (to which I would love to contribute) and that data science education research is a priority. I believe that my experience teaching computing and data science courses of all sizes at Berkeley will complement the experience of other educators in the department, allowing us to strengthen the program together. Among the courses I am most interested in teaching are DSC 10, 20, 40A, 40B, and 80. If there is interest, I am also interested in helping develop new undergraduate data science courses.

Thank you for your consideration, and I look forward to hearing from you soon.

Sincerely,

Suraj Rampure