27 March 2007

Letter of Recommendation regarding Sameer Shah

To whom it may concern,

It is a great pleasure to write on behalf of Sameer Shah, whom I have known for more than six years. He attended two of my courses during his sophomore year at MIT, and worked for me as a research assistant between November 2000 and August 2003. We remained in contact after he moved from MIT to UCLA. Quite simply put, he was far and away the single most impressive undergraduate I have met so far at MIT (having taught well over 500 undergraduates since I joined the MIT faculty in 2000). He also compares extremely favorably with the scores of undergraduates whom I taught and with whom I interacted while I was a graduate student at Harvard. He combines genuine enthusiasm and internal motivation with a probing curiosity, extraordinary diligence, and the ability to produce high-quality work quickly and independently. He also approaches his work with unusual passion and energy. I am pleased to recommend him in the highest terms.

Sameer is one of very few students who have earned an A in both of my undergraduate courses: STS.002 ("Toward the Scientific Revolution"), and STS.095/8.19 ("Einstein, Oppenheimer, Feynman: Physics in the 20th Century"). STS.002 examines intellectual change over the longue durée, from the ancient Greeks to Isaac Newton. STS.095/8.19 charts the changing roles of physics and physicists from the late nineteenth century to today. Both subjects encourage students to think about science in broader ways than they often have done before. My goal in each is to situate major intellectual developments—be they the rise of heliocentrism in early-modern astronomy or the invention of quantum mechanics between the world wars—within shifting institutional and cultural settings, philosophical programs, and political contexts.

In STS.002, Sameer stood out early from his two dozen classmates—although he was still only a sophomore in a class containing many seniors—for his ability to read dense historical and scientific materials carefully and to analyze them critically, and for the sophistication of the questions he asked of the material. He stood out again the following semester when he took STS.095/8.19. This class is cross-listed in both the Program in Science, Technology, and Society, and in the Department of Physics, and caters primarily to undergraduate physics majors. The students read a variety of difficult scientific sources (ranging from portions of Maxwell’s Treatise to Einstein’s 1905 paper on special relativity, Heisenberg’s 1925 paper on matrix mechanics, and so on), coupled with many
challenging historical articles. Sameer, in the midst of his mathematics major, exceeded nearly all of his classmates in conceptual understanding of the material (even though they were predominantly physics majors), and again showed remarkable abilities in dissecting and analyzing complicated arguments. Sameer’s written assignments were clearly based on careful thought and mature scholarly criticism. His participation in class discussions was always strong without being dominating. In short, he was an excellent and genuinely impressive student. It came as little surprise when I later learned that Sameer maintained a straight-A average throughout his coursework at MIT.

More than this, Sameer impressed me time and again while he worked with me as a research assistant. Here again, I can compare his abilities extremely favorably with other undergraduates with whom I have worked. I was able to trust Sameer with tasks that I have not been able to trust to any other undergraduate R.A. (nor, indeed, to some of the graduate-student R.A.s with whom I have worked). First, he was quick to learn and possessed great quantities of common sense. Second, he worked extremely efficiently, turning around jobs in one-half to one-quarter of the time I expected them to require. He was more than merely conscientious—he was invaluable. I doubt that I would have been able to finish my book without his aid; at the very least, it certainly would have taken a lot more time to do so, and would probably have gone in different directions. During the three years that he worked with me, I sent Sameer on a long list of “wild goose chases,” asking him to hunt down obscure items from the libraries at MIT and Harvard; often he had to work closely with reference librarians and other specialists to find the needed materials. He completed extensive journal searches for me the hard way, searching old physics journals page-by-page for articles that made use of specific techniques; he also, on his own, undertook efforts to check his “manual” searches with on-line journal searches whenever possible. He tracked down unpublished theses from around the world, and produced detailed quantitative citation analyses with aplomb.

Sameer possesses a rare combination of talents and interests, which are sure to serve him well in the classroom. First of course is his mathematics training. He has a strong scientific background. Having completed his mathematics major early in his college career, he was able to supplement his classroom learning with genuine research experience during his summer REU internship—a “research experience for undergraduates” program funded by the National Science Foundation. During his internship, he completed some original mathematics research and presented it at an REU conference at Indiana University. Beyond mathematics, Sameer also has extensive experience with reading and writing critically about the ideas and contexts of modern science and technology. From his undergraduate thesis in MIT’s Program in Science, Technology, and Society, and his graduate work in UCLA’s Program in the History of Science, Sameer has gained important insights into how scientific ideas are embedded in broader contexts (political, cultural, institutional). With this combined background, he is especially well poised to serve as a bridge-builder between budding humanists on the one side and young scientists and mathematicians on the other.
Sameer has also gained important experience in the classroom. He and I spoke often when he was at MIT about his interests in teaching. We remained in touch once he moved to UCLA, and so our conversations about the joys and practicalities of teaching continued once he began his own work as a teaching assistant there. Teaching is a subject about which Sameer is particularly passionate. I know he is and will be a marvelous teacher.

For all these reasons, I am glad to recommend Sameer Shah in the highest terms, and with no reservations. If I may be of any further assistance regarding Sameer’s application, please do not hesitate to contact me.

Best,

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