

BRIAN A. SMITH | TEACHING STATEMENT

PHILOSOPHY

I love the process of sharing what I know. I see it as a win-win. The person I am sharing with might learn something new that could inspire them. At the same time, while explaining a concept, I could discover interesting new questions or problems that I had not considered until then. The more I teach, the more I learn. The more I learn, the greater my odds are at having new insights or even discoveries.

But this process of sharing knowledge is also critical for the field of computer science as a whole. Someone can be the most gifted scholar in history, but unless they can communicate their findings effectively, they will never be a successful researcher. If they cannot find a way to inspire others with their work, their contributions will be forgotten. Effective communication is essential to success in research and to advancing the field of computer science. There is no better way to hone one's communication skills than by teaching.

In short, I love teaching, and I believe that effective teaching is critical in advancing the field of computer science.

EXPERIENCE

I have taught and mentored middle school, high school, undergraduate, and graduate students. As a student at Columbia, I have served as a teaching assistant for seven courses – Computational Imaging, Computer Vision, Advanced Game Development (twice), Game Design and Production, and Design Fundamentals using Advanced Computer Technologies (twice). Columbia requires Ph.D. students to TA two courses, but I chose to TA more out of personal enjoyment and because I found that teaching would give me a deeper understanding of the work in my field. In 2011, I received the Extraordinary Teaching Assistant Award from Columbia's School of Engineering and Applied Science. I have also given career and professional advice to over a dozen students and have served as a research project advisor to another dozen undergraduate and graduate students. I have served on Columbia's Undergraduate Recruitment Committee, the Egleston Scholars Advising Committee, and the Computer Science Department's MS Admissions Committee.

Finally, I played an instrumental role in developing educational material (the online textbook and quiz) for the Bigshot Digital Camera project led by Shree Nayar. Bigshot is a digital camera aimed to inspire and educate students between the ages of 8 and 14 on a wide range of science and engineering concepts. Bigshot comes as a kit that is assembled in several stages, each stage giving the student hands-on exposure to an important concept such as optics, mechanics, electromagnetics, electronics, and software. Once assembled, the camera is used to tap into the student's creative potential as a photographer. Bigshot was brought to market in 2013 and has been used by over 50,000 children around the globe, mostly children in underserved communities.

THE FUTURE

My background and past teaching experiences have prepared me for teaching a variety of undergraduate and graduate courses. I would be glad to teach courses in Human-Computer Interaction, Game Design, Augmented Reality, User Interfaces, Crowdsourcing, Computer Vision, and Mobile Phone Programming. In addition, I would be comfortable teaching a variety of core courses at the undergraduate level.

Given that my work seeks to bridge the gap between humans and devices, I am very interested in developing new courses at the intersection of the humanities and computer science. I believe we have entered a new age in which computing is seen as a desirable—if not essential—skill in diverse fields that have historically stayed away from technology. Ultimately, I hope that my courses would inspire a new generation of students to explore the harmony between the humanities and computer science and to consider how human-centered design could enrich our lives in ways we never thought possible.