

# MY VISION FOR ONLINE EDUCATION

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The purpose of this statement is to express my prospective vision for online education. I am passionate both about teaching and research, so being a professor is an ideal career path for me. My experience and motivation of research are elaborated in my statement of purpose, so this article would focus on my teaching experience and my vision.

**Prospective Vision to Online Education** The progress of the Internet has profoundly influenced the education system. Take my learning experience for example, I have studied several courses at massive open online course (MOOC) platforms such as Coursera and edX. At MOOC, I can learn from the professors at first-tier universities for free as long as I can access to the Internet. With the developing of the Internet infrastructure, I believe that online resources would be a significant factor in fighting for educational inequality.

My belief comes from two of my personal experiences. In 2014, I spent 40 days to travel around my country, Taiwan, by walking (944 km in total). During the journey, I slept at local people's houses and I had chances to talk with people with different socioeconomic backgrounds. I observed that the Internet infrastructure in Taiwan is well-developed. Thus, almost all children have access to the Internet regardless of the economic status of their families. Then, when I studied my Master's program, I was a volunteer to tutor an elementary school student in an underprivileged family in Taiwan on a weekly basis. My student lives in a single-parent family, and the father needs to raise three children on his humble wage. In spite of poverty, my student can surf the Internet through her father's cellphone with 4G Internet every night. Proper online resources can compensate for the lack of family education, not only for my student but also for all the children in underprivileged families.

There are many ways to fight for educational inequality. Because I am passionate about doing research on theoretical computer science, a professor is an ideal job for me such that I can contribute to education without sacrificing my passion. When I work on my Ph.D., I will pay attention to the online resources about computer science, especially in the Taiwanese community.

**My Teaching Experience and Contribution to Online Resources** I already have some contributions to the online educational resources in Taiwan. When I was an undergraduate, I participated in a project funded by Ministry of Science and Technology in Taiwan. In this project, I wrote popular science articles about high school physics aimed for general audiences, and my articles were posted on *Science Online* which is free to access. Until December 2019, my articles accumulated more than 68,000 views in total. Besides, I will be an external writer at *Science Monthly* (a science magazine for general audiences, similar to American Scientist in the USA) since January 2020, where I am going to introduce quantum technologies in Chinese. In my Ph.D. study, I will keep contributing to the online educational resources and I plan to cover more cutting-edge research in my field.

I am a passionate and experienced teacher. In my Master's program, I took the course of presentation and communication taught by prof. Ping-Cheng Yeh, the director of MOOC program at National Taiwan University. My term project in this course is to teach 7-graded students about binary representation. In addition, I am capable of instructing professional materials. I was a teaching assistant at the summer school for cryptography in Academia Sinica, and the external lecturer

on quantum computing at ChungHwa Telecom and National Chung-Shan Institute of Science and Technology.

I have also demonstrated my leadership at the educational organization when I was the academic group leader at physics camp at National Taiwan University (NTU). NTU physics camp is a 5-day mini-school for 100 high school students. I led more than 20 people to arrange 3 speeches delivered by professors and 10 experiment sessions for the students to try college physics.

For me, teaching and doing research complement each other. Doing research gives me the materials and deeper insights for my teaching and writing; meanwhile, teaching and writing could help me conclude my research progress and inspire me to new ideas. MIT has a solid group in theoretical computer science, where I can become a first-tier researcher and teacher, so MIT is a perfect place for my graduate plan. I sincerely look forward to joining your program!