

To whom it may concern,

It is my pleasure to recommend Yi Qian for the student travel fund offered by your prestigious program.

I began to know Yi when he took my graduate level course *Cloud Computing Security* at University of Maryland--College Park this spring. Yi first approached me to talk about the research project of the course. At our first meeting, I described the idea of replacing the hash function in my paper *Streaming Authenticated Data Structures* with a SWIFFT-like hash function to make the scheme more efficient. Thanks to his great effort, this course project accomplished more than the original goal and led to the paper *Streaming Authenticated Data Structures: Abstraction and Implementation*, which is accepted at CCSW 2014.

During the spring semester and the following summer, Yi demonstrated the ability to work independently with great creativity, confidence and enthusiasm. During our discussions, he asked good questions. He independently worked on the lattice-based new hash function, which is a theoretical problem with sophisticated mathematics involved. To my pleasant surprise, he also proposed an abstract framework for the original scheme, which leads to a better understanding and more insight. Clearly, Yi is very comfortable with math and has a deep understanding of CS notions.

Yi excels in explaining his ideas, and has shown good communication skills, too. The other two students favorably commented about working with Yi. He showed great willingness to compromise with other research partners. I think they form a good team, and look forward to future collaborations among them.

It would be the first time for Yi to attend CCSW and present his paper this November. There is no doubt that this would be a great opportunity for him as a young researcher. As a first year faculty member, however, I have not yet secured funding from external sources. He will need financial support to make the trip.

Sincerely,

Charalampos (Babis) Papamanthou
09/09/2014