Teaching Statement

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As I think back to the influential instructors in my life a common thread emerges. The most effective instructors inspire young minds by drawing on personal experience and meaningful connections to everyday life or through sheer optimistic enthusiasm. I try to draw on this while working with students at LLNL.

The fruits of my influence on students I have mentored can be seen in a few different angles. Primarily, multiple students have continuously worked in my group and selected thesis topics to align with my group's research direction. Dr. Keita Iwabuchi (formerly at Tokyo Tech) was my first long-term continuous student, funded by my group's projects and a Japanese NSF-equivalent fellowship. Dr Iwabuchi aligned his thesis to investigate data structures for dynamic graphs in persistent memory. Dr. Tahsin Reza (formerly at the University of British Columbia) interned in my group three times. Dr. Reza's thesis research investigated HPC-scale graph patterned matching, based on the HPC runtime I developed at LLNL; I was included on his thesis committee, advised by Prof. Matei Ripeanu at UBC. Dr. Benjamin Priest (formerly at Dartmouth) was a third student I mentored closely as a PhD student. I mentored Dr. Priest on techniques to scale graph sketching algorithms to a distributed streaming environment; I was included on his thesis committee, advised by Prof. George Cybenko at Dartmouth. All three, Drs. Iwabuchi, Reza, and Priest, became Postdocs at LLNL working on projects with me; Dr. Iwabuchi is now staff in CASC/LLNL.

As I consider what can I bring to TAMU, it is the desire to work with Corps/ROTC students at an early stage in their academic development and encourage them to invest in STEM by leveraging my experience and observations. At LLNL, I've had the opportunity to work with two TAMU ROTC Air Force graduates as they prepared for their EAD. Encouraging these young service-minded students to invest in a STEM education is not only an opportunity, but of significant importance to our overall national security. The lack of clearable talent entering the workforce among the many national security mission spaces is a challenge, to say the least, for institutions just like LLNL. I've seen first-hand this shortage, and institutions like TAMU Corps can play a leading role in filling this gap.

Finally, Through my DoD interactions, I have met many who attended graduate school while actively working for their respective branches or agencies. If I am fortunate enough to have a teaching role at TAMU, I would actively draw on these connections in an attempt to bring military and civilian DoD personnel to TAMU for additional graduate education. Areas of data science, artificial intelligence, cyber security, and HPC are of specific importance. Combined with the new facilities being installed at research park, TAMU could become a choice location for continuing education of DoD personnel.

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