To whom it may concern,

I am very excited to apply to MIT's Advanced Study Program. If accepted, my main goal is to increase my knowledge of economics. Especially with recent developments due to COVID-19, the world has headed into an unprecedented regime, as governments and central banks attempt to combat the detrimental affects of the virus, utilizing powers and influencing markets in new and untested ways. There has never been a more interesting time to study economics.

Since the resolution of the virus and the full implications of the pandemic are yet unknown, and it might be years before reliable datasets become available, a different approach to exploring this: simulation, may be in order. It is this intersection of economics and computer science that I find fascinating, and one that I am uniquely qualified for.

My interest in economics is not new. While I was at Olin College of Engineering, in addition to computer science, I sought out several economics courses, which I was able to take via cross registration at Wellesley. I very much enjoyed these courses, especially macro economics, where policy and politics started to come into play.

I furthered this combination of computer and social science when I did my masters at Cornell Tech. Where, in addition to data science, and machine learning courses, I was exposed to product design and the inner workings of the world of entrepreneurship. Seeking to combine these skills of design and programming, I applied to Raytheon, BBN technologies.

I have spent the last four years working at Raytheon, BBN Technologies. While I was there I worked with a small team making modeling and simulation logistics software for a variety of defense organizations including US Transportation Command, the Air Force Research Lab, and the Office of the Secretary of Defense Cost Assessment and Program Evaluation (part of the pentagon).

These programs varied in technical implementation; some of them were traditional Java applications, while others were React powered web apps. They also varied in team size, from the largest, with its team of more than ten, to some where I programed the tool myself.

However, the unifying features behind these tools was their deep technical complexity and the importance that domain rules had on their creation. In order to even start programming one of these tools, it required me to truly understand the workflows, operations and rules that governed the world that these tools would have to work in.

Learning about the logistics domain was one of the favorite parts of the job, and the same skills that I gained doing that work, I intend and look forward to applying in the realm computational economics, specifically agent based or behavioral modeling. I hope that MIT's Advanced Study Program can help me gain the economics skills needed to pursue this fascinating work.

Sincerely,

Brendan Ritter