

## **Thesis Project Portfolio**

**AWS: Alinging Digital Infrastructure for Efficient Development**

(Technical Report)

**Managing Misinformation on Social Media Through Semi-Automated Methods**

(STS Research Paper)

An Undergraduate Thesis

Presented to the Faculty of the School of Engineering and Applied Science

University of Virginia • Charlottesville, Virginia

In Fulfillment of the Requirements for the Degree

Bachelor of Science, School of Engineering

**Nicholas O'Connor**

Spring, 2022

Department of Computer Science

## **Sociotechnical Synthesis**

While on the surface the topics of my technical and research thesis are different, they are connected in that they both revolve around the use of computing technology. For my technical thesis, I examine how AWS uses flexible digital infrastructure to improve the efficiency of software developers and server-side processes. In my STS thesis, I discuss how the ease of access to information provided by social media has proliferated misinformation online, and what methods have been implemented and adopted in order to curb its spread. This solution and problem both can only exist due to the power that computers provide, as they allow us to reach spaces not achievable through human capabilities alone.

## **Technical Synthesis**

When developing an application, especially one that is meant to handle server traffic from users over the Internet, the initial setup of a network socket is rather simple. However, many complexities arise as the number of users increases, and different behaviors are expected from users in different locations. How will load balancing be handled? What happens when one server cannot handle all of the traffic? In my technical synthesis, I examine how my internship at Amazon and my experience with AWS expanded my knowledge of managing digital infrastructure.

## **STS Synthesis**

Social media is used by a large portion of the world's population, and the number of users will only continue to grow. Along with access to the fastest reliable communication method so far in human history comes with the ability to rapidly spread information, without an easy ability to check its veracity. In my STS synthesis, I examine how various social media providers moderate misinformation and aggressive behavior on their platforms.