Virginia CubeSat Constellation Mission
(Technical Project)
Where Space Science Would be According to Stanley Kubrick
(STS Project)

A Undergraduate Thesis
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Bachelor of Science in Aerospace Engineering

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On my honor as a University student, I have neither given nor received authorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

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The Virginia CubeSat Constellation Mission is a project conducted by four Virginia universities: University of Virginia, Old Dominion University, Virginia Tech, and Hampton University. Three nano-satellites, each 10 centimeters cubed, deployed into orbit to obtain measurements of the properties of Earth's atmosphere. The three CubeSats launched on April 17, 2019, and on July 3, 2019, the CubeSats deployed from the International Space Station. The purpose of the technical aspect of this thesis is to finalize licensing with Wallops Flight Facility in order to establish testing procedures with them and to establish communications with UVA's Libertas satellite in order to collect empirical data. This mission is loosely coupled with the STS research portion of this thesis which, using the film, *2001: A Space Odyssey*, will investigate how science fiction films have inspired and continue to inspire the creation of new technologies. This research will also investigate why space science has not yet reached the level of technological advancement Stanley Kubrick suggested it would by the year 2001, or even 2020. Technologies featured in the film that currently exist but did not really exist at the time, at least at the same caliber, include tablets, artificial intelligence (AI), and an earth-orbiting international space station. In contrast, the film also features humans travelling as far as Jupiter and a layover stop on the moon, both of which do not exist and are far from fruition. The impact of art on science is important to investigate as the future is undecided, and now more than ever, humans are influenced by video-based media. Using actor network theory (ANT), the societal implications of the influence of science fiction film, specifically 2001: A Space Odyssey, on technological advancements will be analyzed. Case studies, journals, and articles will also be used in order to prove that art and science are not mutually exclusive but instead influence each other.

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