

D e s i g n
— for the —
Next Generation

*How Anticipatory Intelligence Could Revolutionize the
Design Approach to Combat Security Threats*

Caine Summer Research Grant Application

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Design for the Next Generation:

How Anticipatory Intelligence Could Revolutionize the Design Approach to Combat Security Threats

The past year has brought forth a concern to the public that the intelligence community has been aware of for years—public safety. While Hollywood has created countless storylines around the end of the world, biological warfare, pandemics, and terrorism, the public is largely unaware of the reality of these threats. However, after a year of the coronavirus pandemic, fallout from the United States drone strike on Iranian General Qasem Soleimani, two senate impeachment trials for former President Donald Trump, mass Black Lives Matter protests sparked by George Floyd’s death, devastating natural disasters, and the January sixth siege of the United States Capitol building, the reality of such threats seem to have Americans on the edge of their seats. One year ago, the world we lived looked entirely different than it does today; face masks, social distancing, acrylic partitions, lower room capacities, and empty office buildings have become the norm, but what will it look like when everyone returns to work, and the mask mandate is lifted? How will we continue to protect the public from future threats? Could the spread of the coronavirus have been slowed before reaching the status of a pandemic? After 9/11, industry and world leaders recalibrated, making alterations to public spaces and buildings in order to decrease the likelihood of repeating the catastrophic event. While the changes they made were valuable and world-altering, the industry leaders and government officials cannot wait for another tragic event to inspire more change. If 2020 has proved anything, it is that in the blink of an eye, theoretical threats to society can come to fruition and if those in charge do not take initiative in combating them before it occurs, millions could pay the price.

My research will begin by gaining an understanding of how the United States’ defense and national security departments currently determine what security measures to take and how they prioritize them. This will lead me to researching the history of security and building standards as well as how the two have evolved over time. To gain a better understanding of the current security standards, I will research government and public buildings that have the most and least successful security incorporated in their design. Visiting these buildings in person will help me better understand their successes as well as their pitfalls. One case study I plan to conduct is the pentagon because of its status as the most secure building in the country. I will have to work from redacted public information because of the potential security risk that could come from making that information general knowledge, however, the public information will still be valuable. I will also research what changes have been made because of 9/11, and more specifically, changes that have been made to airport design. To better prepare for future security threats, we must study past security threats and how they were made possible or could have been prevented. I will research events including the mass shooting at Mandalay Bay Resort and Casino in 2017, the mass shooting at Sandy Hook Elementary School in 2012, Pulse Nightclub shooting in 2016, the Anthrax attacks, the Oklahoma City Bombing, the Time Square Bombing in 2008, the shooting at Edward J. Schwartz United States Courthouse in 2008, the Barack Obama

assassination plots in 2008, the Pentagon shooting in 2010, the ricin letters in 2013, the Wichita Midway Airport bombing attempt in 2013, the Congressional baseball shooting in 2017, and the siege of the United States Capitol Building in 2021. Learning about how the perpetrators were able to commit their crimes will help public and government buildings to better prepare for future threats.

I will then work with the Center for Anticipatory Intelligence (CAI) at Utah State University to determine future potential threats. I plan to work with professionals in the CAI program including Dr. Jeannie Johnson, founding director and former CIA intelligence officer, as well as Matt Berrett, co-founder and former CIA assistant director. Working with these professionals at Utah State gives me unique access to their incredible depth of knowledge and network of leaders in both private and public sectors. The information gained by working with the Center for Anticipatory Intelligence is vital to this project because the methods of attacks on the people of the United States rapidly evolves with the development of advanced technology. Therefore, in order for design to be successful in protecting the citizens of the United States, we must evolve as well, anticipating the criminals' next move.

The third largest crime industry in the world is human trafficking, right behind drugs and arms trafficking. It is estimated that 24.9 million people are victims of forced labor including 16 million people that are being trafficked for labor in the private economy, 4.8 million people that are trafficked for sexual exploitation, and 4.1 million people that are trafficked for state-imposed forced labor (Human Trafficking Facts and Statistics). While human trafficking has been around for thousands of years, it was not until 2000 that the United States began anti-trafficking efforts among federal agencies including the Trafficking Victims Protection Act and the creation of the President's Interagency Task Force to Monitor and Combat Trafficking to Persons (Federal Government Efforts to Combat Human Trafficking). In 2013, Operation Underground Railroad (OUR) was founded by former CIA operative Tim Ballard to end child slavery with the help of world experts and local law enforcement (About Us). Tim Ballard has also helped to pass the End Banking for Human Trafficking Act of 2019 (Curtis Continues Fight Against Human Trafficking with OUR Tim Ballard and Rep. Crenshaw) and creating the Department of Homeland Security's Center for Countering Human Trafficking which opened in October 2020 (Ballard, T). Since the fight against human trafficking is so young, there are countless opportunities to fight it with design. While flight attendants, hotel employees, and healthcare workers are trained to spot human trafficking, more can be done to pick up what the human eye cannot. I plan to take OUR's Signs of Trafficking Training Course to better understand the signs of human trafficking. I will then reach out to the OUR organization to interview their operatives and get their professional insight into how design can better help fight human trafficking.

During the summer I will also complete an internship with a professional design firm. This will once again give me an opportunity to interview a designer in the field and gain their input as to how design can better protect people from security threats. Once I return to Utah State University in the fall of 2021, I will take the knowledge I have gained from the

professional designers, case studies, government employees, Center for Anticipatory Intelligence founders Jeannie Johnson and Matt Berrett, and Operation Underground Railroad operatives to determine what building could benefit the most from being designed for this project.

For this project to be successful I will have statistical reasoning. My research will show statistics that compare where the design of a building allowed for a security threat to take place, how often that flaw allowed for a security threat, and how my design will better protect from future security threats. I will run different scenarios that reflect several security threats including mass shootings, bombings, and human trafficking to show how my design can aid in preventing a successful attack and how the design would help law enforcement agencies to catch the perpetrators attempting such acts. While I would have completed thorough research over the summer, there is no way to make up for years of experience in the intelligence and law enforcement agencies. Therefore, I would once again work with Jeannie Johnson, Matt Berrett, Operation Underground Railroad operatives, and any other contacts gained throughout the research process to get any feedback on where my design may need improvement. This process may be repeated several times in order to fine tune my design and ensure it is as thorough as possible and does not contain any blind spots.

The final product will show how my design evolved while working with these professionals and what mistakes I made along the way because that information will be just as important for future designers to take into account in their work as it is for them to use the solutions I found. This is similar to intelligence agencies writing reports into what they see as a flaw in government operations or policy and what scenario could exploit it. Often times we learn from our mistakes more than our successes, and if we can learn from other's mistakes first, we will be able to bypass the casualties, damages, and loss of money needed to fix the mistake. This project will serve as a blueprint for future design. I will present it with a complete write-up of all my research findings, an in-depth explanation of my design decisions, as well as a visual presentation that delivers the information quicker for those who do not have the time to read the full report. The final product will be presented at the Student Research Symposium, Research in the Arts Day, and on display at the interior architecture and design senior exhibit in spring 2022. Due to its value, I would also share the final product with the professionals I worked with throughout the project and any government officials or professionals that could benefit from the knowledge I gain.

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Ballard, T. (2020, October 20). Tim Ballard. Instagram. <https://www.instagram.com/p/CGlZuKXhs8G/?hl=en>

Curtis Continues Fight Against Human Trafficking with OUR Tim Ballard and Rep. Crenshaw. (2019, March 7). John Curtis Congressman. <https://curtis.house.gov/press-releases/curtis-continues-fight-against-human-trafficking-with-our-tim-ballard-and-rep-crenshaw/>

Federal Government Efforts to Combat Human Trafficking. (n.d.). U.S. Department of Health and Human Services. <https://www.acf.hhs.gov/otip/resources/federal-efforts>

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Personal Statement



This research opportunity is exciting for me because it allows me to study a single design issue for a longer amount of time and in a more in-depth way than any project I have completed before. I am the most intrigued by the combination of design and anticipatory intelligence. This research will uniquely prepare me for a career in design intelligence after graduation and provide me with a network of industry leaders that shape the future of the country. I recently applied for to be a part of the Center of Anticipatory Intelligence undergraduate minor at Utah State University. This is a one-of-a-kind program that only exists at this university which gives Utah State University students a unique opportunity to become leaders in

industry and intelligence communities. I have always been interested in the intelligence field, however, I never understood how I could break into the industry and how I would choose between the two careers I wanted the most. It was not until I recognized the correlation between the two fields that I truly saw what my future could become.

Anticipatory intelligence design would tie my major and minor together in a way that could only be accomplished with the Caine Summer Research Grant because it allows for two very different fields that are unique to Utah State University to be combined into one. The final product would give future employers an understanding of why I chose to minor in anticipatory intelligence and how the two relate because at first glance, it would appear as if I blindly chose a minor instead of choosing a more traditional and obvious path like landscape architecture. Moreover, as I apply to graduate school next spring, this research grant would set me apart from every other applicant. Since anticipatory intelligence is such a unique field of study and Utah State's high ranking interior architecture and design program is unique to not only the school but the region, a project of this caliber could grab the attention of admission's officers around the country including the top architecture master's program at Harvard University. Next Generation Design would not be just another project for my portfolio, it would become the start of a pathway to a career never before achieved.

For me, design has never been about merely making a room beautiful; I want to help people through design the way we have been taught it can since my first day at Utah State. Alejandro Aravena focuses on social impact projects that includes housing, public infrastructure, and transportation initiatives. Jill Fehrenbacher steers architecture and design to a more sustainable future. Julia King creates the future of urban development, like building a sewer for 322 low-income houses in New Delhi. MASS Design Group uses housing design as a strategy to combat disease, including the maternity waiting village they built in Malawi to address the high infant mortality rate. I will focus on using anticipatory intelligence to create safer public and government buildings and decrease the physical and economic damage of violent crimes, terrorism, and human trafficking.