

Buffett Undergraduate Research Fellowship Opportunity

Dry Ocean

Faculty Mentor: Ozge Samanci, Associate Professor, RTVF (Evanston campus)

Project Synopsis: In Orhan Pamuk's novel *The Black Book*, the Nobel Prize-winning author imagines the seawater receding from the Bosphorus Strait. In Pamuk's depiction, this Turkish waterway full of sailboats and charming reflections turns into a muddy valley, and people start living there. The valley becomes a sketchy part of Istanbul hosting small and dirty businesses.

The opposite of what Pamuk imagined, the rise in sea levels, is a consequence of global warming and human overpopulation. In the time scale of geological epochs, our planet may survive and eventually recover, but humans could become rare or extinct. *Dry Ocean* is a data-driven projection art piece about sea level rise, population increase, consumerism, the fuel-driven plastic economy, and marine pollution.

Three dancers will wear wireless EEG (electroencephalography) headsets that measure their attention and meditation levels via brain waves. The unfolding of the images and sound (projected component) will be responsive to brainwave feedback from the dancers. Because of this data-driven quality, the flow of the images and the soundtrack will be different in each performance. The projected piece will include both the rise and the receding of seawater, and the revealing of the surreal ocean bottom covered with human artifacts from the Industrial Revolution into a speculative future. As the water recedes and rises repetitively, the ocean bottom will take a more surreal form. Each revealing serves as a new scene eventually reaching an underwater dystopia. The scattered artifacts will resemble Hieronymus Bosch's Hell paintings, ranging from wooden horse-cart to fiber optic cables and satellites, from whale bones to curious-looking futuristic militaristic objects. In addition to brainwave sensor data, the piece will also use global ocean pollution data such as pollution types, movements, and distribution. One of my previous installations, *You are the Ocean*, may help you to visualize this project.

<https://vimeo.com/232792092>

The research question: In recent decades, narratives of environmental cataclysm and points-of-no-return have come at us with increasing urgency and speed. Meanwhile, their very real messages have, at times, been reduced to mere trends and clichés. By now, many people have developed a resistance—even an immunity—to hearing about environmental issues. Can we use media arts to break down this mental and emotional barrier?

Project Term: Summer + academic year

Project Location: 1. On campus, in person.

Ideal Applicant: Student should be fluent in C# computer language and should have an interest in data

art and media art. I will create the visuals using a game design environment, Unreal Engine. The student will develop computer code in C# language. The student and I will connect the ocean movement to the sensor data in a way that creates an aesthetically pleasing response. By running experiments, we will find the best method to create interactions between ocean water, the scattered objects on the bottom, and the movements of the dancers. Students will also develop a code to pull 3D objects from a database and scatter them on the ocean bottom and in the ocean water responding to sensor data. The student will research possible global ocean pollution data sets and simplify the relevant data for our use.

Number of Available Positions: One

