



Capstone Design Project Abstract

Project Title: Algae Tree

Sponsor: N/A

Team Members: Abena Boateng, David Baker, Rajin Karpen, Kipling Len, Jeffery Whitmire

Faculty Mentor: Kevin Wu, James Kastner

Algae Tree is a capstone project that aims to create a solution to the problem of large carbon dioxide presence in the environment and how it promotes climate change. The project seeks to create an aesthetically pleasing biomimicry device that can sequester carbon and produce biofuel and biofeed. The project is inspired by nature, where trees take in carbon dioxide and release oxygen, contributing to a healthier environment. Our team understands the importance of creating a sustainable solution that can be scaled up. Thus, the Algae Tree project was started to achieve beautification in an environmentally friendly manner while reducing carbon footprints.

The proposed algae photobioreactor will have the capacity to sequester one metric ton of CO₂ while producing 1.8 metric tons of algae. The project is designed to last a year, providing a sustainable solution for reducing carbon footprints. The Algae Tree project aims to create a device that is both functional and visually appealing, providing a positive impact on the environment.

Our team is committed to developing a sustainable and environmentally conscious business model. We aim to use eco-friendly materials and processes in their production, reduce waste, and prioritize social responsibility. The success of the project is not only measured by its impact on the environment but also by its contribution to creating a sustainable and equitable world. Our team strives to be a role model for other startups and companies in the industry, inspiring them to prioritize sustainability and social responsibility.

In conclusion, the Algae Tree project is a result of the team's passion for the environment and a sustainable future. We believe that our innovative solution combining: aesthetics, biomimicry, and sustainable technology has the potential to make a significant contribution to building a better and more sustainable future.

