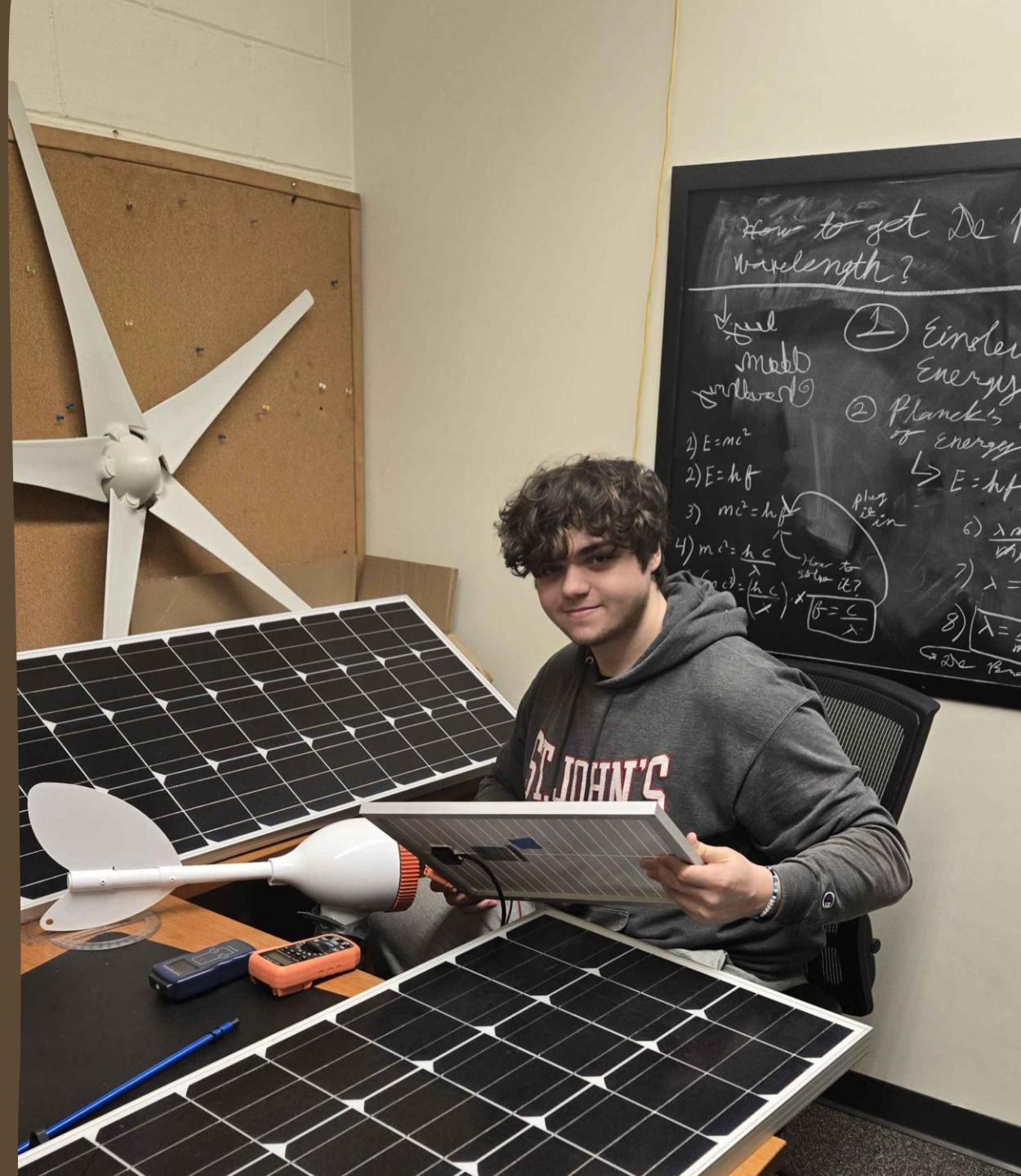


AN IN-DEPTH LOOK AT SOLAR PANELS AND WINDMILLS FOR ENERGY PRODUCTION

By Joshua Rivera



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About me

- My name is Joshua Rivera, I am a junior undergrad majoring in physics.
- One of my primary goals is to pursue going to graduate school to further my education.
- I would like to be able to one day do work building a sustainable future through sources of energy like solar panels, windmills, or nuclear power plants.

How I got started



- My initial introduction to work with renewable energy came when my professor Malek Abuneameh had talked to me about doing this work with him during the fall
- This seemed like an incredibly interesting offer and so I decided to follow through with his request, leading me to his class in renewable energy
- This allowed me to begin working with varying solar panels and windmills!

Goals of research

- **Incorporating renewable energy sources into urban settings**
- **Get a better understanding how it is that solar panels and windmills work and produce their power**
- **Get involved in understanding the procedure of setting up renewable energy sources**



Data gathered so far

- **Renewable energy adoption in NYC/Westchester is low, but solar panels and windmills provide a path forward here**
- **Solar panel efficiency is affected by shading, angle, and placement; solar pathfinders optimize their performance**
- **Wind energy serves as a reliable complement to solar power contributing significantly to renewable energy production.**

Further interest

For a more detailed look at the work that I have conducted I encourage you to visit my poster presentation!