

Alfred University engineering students to develop electric, LIDAR guided vehicle

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Alfred University Professor of Renewable Energy Engineering Xingwu Wang is working to bring a visionary (and totally cool) engineering plan to fruition with the help of Alfred University engineering students completing their senior capstone projects.

The results of their labor may be unveiled in May or early June of 2018, as a two-person electric car makes its way along Academic Alley between Harder and Seidlin Halls. Wang says he hopes students are able to incorporate LIDAR technology and lithium ion batteries to make the car both a driverless and energy-efficient electric vehicle.

The project began in December 2016 when Alfred University's Renewable Energy Engineering program came into possession of a 1970's-era electric car body and chassis. Originally, the car was to be powered by eight cumbersome 12-volt batteries, weighing about 160 pounds. Its first owner had bought it as a kit, but never finished the assembly.

Since the 1970's, lithium ion batteries have become a standard power source for portable electric motors. The on-board LIDAR ("Light Detection and Ranging") system Wang envisions for this vehicle is a more advanced piece of technology. Manufacturers of driverless cars have been studying the system as one possibility for the safe guidance of future driverless cars. LIDAR involves a cone-shaped machine set on top of a vehicle, projecting lasers that bounce off objects to create a map of the surrounding environment in real time.

The body and chassis now sit under lock and key in a sealed building on the Alfred University campus. An old electric motor sits on a nearby bench. Wang says the project to convert it into a fully functioning, modern electric car will begin in the fall. He's looking for about ten senior students studying mechanical engineering or renewable energy engineering who will sign on for their senior projects.

"We're grooming one leader at a time," Wang says.