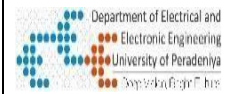


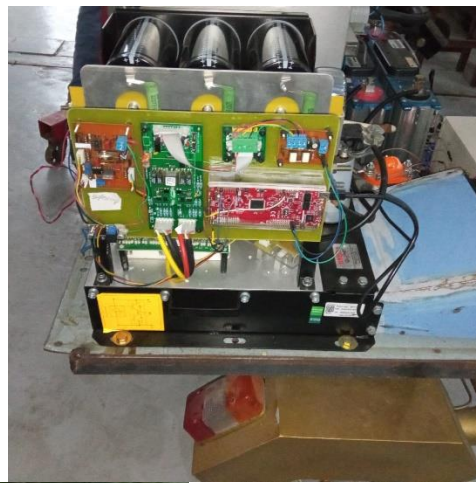


## Product Design: Implementation of Bidirectional Power electronic converters for an Electronic Three-wheeler



### Short introduction about the work

This research involves the implementation of a bidirectional power converter for a light electric vehicle where the energy sources are Calcium Batteries and a supercapacitor. The bidirectional converter, along with its PI controller system, maintains the voltage and the current of the dc motor bus while maintaining the requirement of the e-wheeler. The design process involved harmonic mitigation, building and setting the power electronic converters, and finally conducting test runs of the e-wheeler with the bi-directional converter setup.



**Key results**

- 1) Working Bi-directional power flow system in the light electric vehicle
- 2) Signal filtering system to measure the current signal
- 3) Texas launchpad-based PI system to monitor and control each of the buck-boost converters

**Beneficiaries of the research (optional)**

Beneficiaries of this research include industries that are looking to deploy low-cost light electric vehicles to the market.

**Research team**

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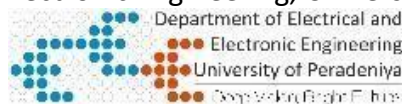
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