



School of Energy

2018/19 Electrical Engineering Capstone Projects

Students	Project	Faculty Advisor	Sponsor(s)
Terry Calderbank Navraj Kambo Brayden Aimar	Computer Vision Assisted Grape Picking: This project will involve the development of a robot, the VineBot, which is intended to reduce the labour required during the harvesting of wine grapes, while introducing less damage than caused by traditional machine harvesting.	Craig Hennessey	
Jing Huang Chris Stewart Sung Joon (Richard) Lim	RAEVN (Remote-access Environmental Visualization through Nodes): This project will involve the development of a low-cost, Bluetooth based environment data sensor and processing system, that will be deployed and scaled for residential and industrial settings, to help improve indoor comfort and energy efficiency.	John Dian	
Neil de Hoog Josh Lang Brandon Pham	Aerial Ignition System for Wildfire Applications: "Fight fire with fire" is a widely used tactic to combat wildfires, and the current approach is both expensive and poses danger to the pilot. As a solution, drone technology will be developed to perform controlled burns. The drones will be highly automated and require little training to operate remotely.	Chris Siu	
Julie Lee Kyle Yoon Peiman Dadkhah	Sweet Home - Smart Thermostat EMS: This project will involve the development of a modular thermostat, which will allow the consumer or building manager to increase their energy savings to a high degree, by decreasing the runtime of heaters without the need for expensive smart thermostats.	Jeff Bloemink	
Aaron Fernandes Adam Wells Jeff Kim	RSubstation Automation and Protection Systems: This project involves the use of modern communications protocols to realize coordinated protective relaying schemes to replace conventional approaches to distribution and substation protection in power systems.	Ali Palizban	

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Brandon Lee Marvin Matanguihan Ben Yang	Measurement Device for Transient Response of Surge Arrester Ground Leads: In this project, a testing instrument that will allow for high-frequency characterization of the ground path will be developed to ensure that high voltage surges will be arrested effectively, or to determine whether upgrades must be made by the utility.	Nurul Islam	BC Hydro
Jacob Lagasse Tyson Whyte James Pan	Modern Generator Defense (MGD): This project involves the development of software that will aid engineering consulting firms in conducting generator protection studies with improved accuracy and in a reduced time frame.	Ali Palizban	BBA
Kolyn Gray Jake Jarvis Luke Pankratz Calvin Lee	DAQ Drone: This project will involve the development of mobile or roving communications access points that will be deployed in a disaster scenario, in order to keep the lines of communication open.	Bob Gill	
Cole Harkness Jacob Mbila Jacky Lee	Wireless Energy Monitoring System: This project will introduce a wireless energy monitoring system that will monitor power and transmit data wirelessly throughout any building and display, in real time, the power and dollars being used. This will give insight to what is taking up power and what steps to take to save money.	Diane Kennedy	
Kevin Shu Kostya Yushchak Thiha Zaw	Smart Bicycle Safety System: The number one cause of cyclist fatalities is rear-ended collisions. We will design a system to improve the cyclists' safety and reducing the number of rear-ended collisions through the addition of simple but effective detection and warning systems to bicycles.	Ed Casas	
Hubert Pham Siek Meng Tend Andy Zhen	Motor Efficiency Estimation Device: This project will involve the development of a measurement device that can take measurements of necessary parameters such as speed, torque, voltage and current to estimate a motor's efficiency by doing a low load test. This will eliminate some of the physical tests and provide real-time estimation to optimize motor performance during operation.	Kathy Manson	