School of Energy

2017/18 Electrical Engineering Capstone Projects

Students	Project	Faculty Advisor	Collaborator(s)
Zawaad Sobhan Kyle Soroczka Robert Third	**SMARDHAT: Communication aid for Noisy Workplace Environments**: A system is needed for noisy work environments that suppresses noise, facilitates communication among workers while also facilitating safety and situational awareness on the work site.	Dave Romalo	
Cameron Morgan Cole Raschpichler Paul Wiebe	**AANAA: Autonomous Airport Navigation Aid for Airports**: People with strength, mobility or cognitive challenges will benefit from having assistance at an airport to understand instructions, find their way, port their luggage and board their flight.	Diane Kennedy	A&K Robotics Anson Kung
Ken Do Andrew Obermeyer Bea Venzon	**Crane Boom and Bucket Proximity Alarm System**: The booms and buckets on power line maintenance trucks can cause power outages, injuries and death. We will be building a system to help prevent this.	Jeff Bloemink	BC Hydro Bob Stewart
Russell Nicolas Adam Vengroff	**SWAGS: Technical assistance for training of Welders**: Precise welding requires careful control of position, pace and pressure, all viewed through a nearly opaque welder's mask. Our device will help in training welders and in ensuring that high-quality welds are produced.	Neil Cox	
Matt Knight Peter Li Lulu Li	**Internet of Health: Instrumented prostheses**: Monitoring of the fit and function of a prosthesis is important to practicing prosthetists and their clients. We will build an instrumentation and data acquisition system to help in this task.	Chris Siu	Hodgesongroup Nathan Kirkby

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Navtej Heir Andrew Ydenberg	**ROGES: Recovery Optimization for Gold Extraction Systems**: Mining processes run continuously, and turning them off to adjust control parameters is costly. Moreover, improper configuration of the control system can be costly and damaging. We are building and validating a model to allow control parameters to be optimized prior to bringing them on-line.	Glenn Pellegrin	Red Chris Mines Tom Gross
Mike Bagheri Dan Christian Retonel Davneet Singh	**Smart DC power grid System**: The increasing number of DC-powered devices today gives rise to a need for DC power micro grids. We will build and evaluate a demonstration DC micro grid to show how this need could be met.	Ali Palizban	
Alexander Bowers Eduardo Cabrera Armin Laghaee	**Smart Cane**: We will design and build an instrumented cane for use by people with balance, mobility and possibly cognitive challenges. This will be designed with specific usage scenarios in mind, considering the needs of caregivers as well as the person using the cane.	Bob Gill	
Jeremy Barbour Joshua Young	**Virtual Battery**: An important element of a Microgrid is having a battery that is used (variably) for storage or supply of energy. Such a battery (referred to here as a virtual battery) may be comprised of various physical battery units that can be plugged in or removed without notice. We will design and demonstrate a system for creating and managing such a virtual battery.	Kathy Manson	
Vladimir Cvjetan Nathaniel Rohrick Preston Thompson	**Seastar Steering Wheel Interface**: A versatile steering apparatus instrumented with electronic interfaces will be created. This will allow seamless introduction of electronic controls to enhance the user experience in various recreational boating scenarios.	Craig Hennessey	Seastar Ray Wong