

I/UCRC CAKE Executive Summary - Project Synopsis

Date: 9/30/15

Project Title: NSF I/UCRC: Test and validation of signal processing hardware and software

Phone : (561) 297-3180

E-mail :bfurht@fau.edu

Center/Site Director: Borko Furht**Type: New****Project Leader: Borko Furht****Proposed Budget: \$7,900**

Project Description: Focus of the work will be to develop, test and validate different hardware and software approaches for the signal processing technology under development at AventusSoft. The students will get hands-on exposure to next generation sensor technology and embedded hardware platforms, some of which have not been commercially released. Programming state-of-the-art signal processing modules will provide the students with a broad exposure to developing code that is industry grade, and develop a thorough understanding of the signal processing.

Experimental plan: Engage with AventusSoft's software and hardware development team to test, validate and develop the necessary software.

Related work elsewhere: The project will benefit for code and development environment available from Texas Instruments

How this project is different: This project offers the students an opportunity to gets hands-on experience with next-generation sensor and embedded hardware technology, technology that is not currently available in a university setting and is becoming popular in the industry. Writing industry grade software paves the way for the students to hone their programming skills and knowledge.

Milestones for the current proposed year: The project will begin in October with an end date of December 31st. The goals for this term are to, 1) Familiarize with the hardware and software setup, 2) design and develop experiments and associated C++ code, 3) Validate the next generation embedded hardware platform available from Texas Instruments, 4) Run experiments to calibrate the sensor, hardware and software.

Deliverables for the current proposed year: Calibration and performance numbers of the hardware and software platform.

How the project may be transformative and/or benefit society: Medical monitoring is a major goal of NSF. This project provides students with hands-on experience in developing hardware and software that is very relevant in the industry today.

Research areas of expertise needed for project success: The expertise required includes, C, C++, MATLAB programming expertise. Background in embedded programming, (something like TI, Arduino, etc), Hands on experience in something like Micro-controller, hardware, labs. Used test equipment like oscilloscopes.

Potential Member Company Benefits: The company benefits by the prototype development, validation and calibration of the hardware and software.

Progress to Date: None**Estimated Start Date:** 10/19/2015**Estimated End Date:** 12/31/2015

The Executive Summary is used by corporate stakeholders in evaluating the value of their leveraged investment in the center and its projects. It also enables stakeholders to discuss and decide on the projects that provide value to their respective organizations. **Ideally, the tool is completed and shared in advance of IAB meetings to help enable rational decision making.**