CSE Student Newsletter

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Department of Computer Science and Engineering
University of South Florida
Tampa, Florida
http://www.cse.usf.edu

Dear CSE Students:

Welcome to the second newsletter of the Summer 2019 semester.

Message from the UG Advisor:

Summer term C will soon end. If you need to revise you fall plans based on your summer courses, remember that walk-in advising will be impacted by the numerous orientation sessions throughout July and August. If you are planning to visit for walk-in advising, you should check ahead for our availability before travelling to campus.

Message from the Grad Program Assistant:

• Students graduating Summer 2019, please make sure that you submit your Graduation Checklist and Plan of Work. In addition, you must apply for graduation via OASIS.

• Registration for Fall 2019 has been opened and classes are filling up! Make sure you are registered for the courses you wish to take and that you are registered by August 23 to avoid a $100 late registration fee. You can still change your schedule during add/drop week.

Attached are announcements for the following (please note that this listing does *not* imply University or Department endorsement):

- Tenex Internship and Full-time Job Opportunity
- Computer Engineering Research Opportunity
- Wells Fargo Campus Analytics Challenge

Regards,

Ken Christensen
Professor and Associate Chair of UG Affairs

Internship and full-time opportunities available!

Learn! Grow! Have fun! A fast-paced knowledge intensive start-up that can stretch your horizons.

About Tenex

Tenex Software Solutions is a Tampa-based software company that is seeing immense growth right now! Our award-winning Precinct Central product has been used by some of the largest local governments in the US and been acclaimed as the most user-friendly electronic voter check-in solution in the industry. Our platform continues to grow and has resulted in a few new openings. We are interested in highly motivated individuals that are excited about learning all aspects of Computer Science/IT in a nurturing but demanding business environment. Tenex strives to be a leader in the elections domain and aspires to be 10x better than the next best.

Responsibilities

The selected candidates will be expected to participate in the full software lifecycle of our cloud based mobile solution with an emphasis on complex coding activities. Will need to understand large software modules, required to participate and contribute to design and development of user experience, and be very effective at coding. Candidates will be expected to be logical thinkers and be able to keep up with changing user requirements and fast paced priorities. We are seeking candidates with a strong ambition to grow and learn with a focus on user interface aesthetics and to apply good software development methodologies.

The major part of the assignment will be intense Development/Coding work on the Web and Apple iOS platforms. Candidates are expected to generate quality, production-ready code based on working with a small close-knit group of architects, developers and subject matter experts in the US election market. The candidates will be expected to understand functional requirements, come up with an implementation strategy, estimate timelines, develop the software, unit test and integrate. Will be expected to learn and use life-cycle management tools for defect tracking, source code repositories etc.

Required Minimum Qualifications

- Pursuing or earned a Bachelor's degree in Computer Science/Software Engineering Data Science or related field
- Junior or Senior GPA of 3.5 or higher (some exceptions may apply)
- Good planning and organizational skills
- Effective team player
- Available for a minimum of 20 hours per week

This internship offers competitive pay in comparison to other software companies in the Tampa Bay area. With this internship is also the opportunity to continue on for various semesters and even post-graduation. We want team players that are willing to learn and push themselves to be 10x better than the rest.

To apply, email your resume to careers@tenexsolutions.com.

<u>Computer Engineer Needed to Join Research Study Team</u>
Study: "Yaw Axis Reorientation Using Galvanic Vestibular Stimulation and a Barany Chair"

We are searching for a computer engineering student or graduate to join our research study team. Your knowledge and skills will be vital to the design and testing of the hardware and software needed to record participants' responses to rotating Barany Chair motion and Galvanic Vestibular Stimulation (GVS). Pilots in prolonged turns, spins, or similar maneuvers can lose their sense of rotation and become spatially disoriented. The effects of spatial disorientation can be overpowering and have resulted in a significant number of aircraft crashes and fatalities. The aim of this study is to determine if galvanic vestibular stimulation from electrodes delivering low-amperage currents in a particular pattern to the skin can quickly reestablish a sense of yaw rotation that is lost following a prolonged spin in a rotating Barany chair. If GVS can produce perceptions of motion and orientation comparable to those experienced in a Barany chair, additional studies will further examine the potential of GVS to counter inflight disorientation and other flight mishaps. The end goal of this research is the incorporation of GVS into aircraft avionics, headsets, and helmets as a safety device to prevent spatial disorientation mishaps.

As the study's computer engineer, you will be responsible for the following:
1.) Develop and test a wireless joystick capable of only right and left displacement to record participants' deflection angle inputs. The joystick will need to be attached to a rotating motorized Barany chair located in the Morsani Center Clinic. In addition, the wireless joystick must incorporate a bank angle detent, or catch, that requires added force by the user to deflect the joystick beyond the fixed detent angle (e.g., 30°) to achieve full deflection.
2.) Design and test computer software to record real-time left and right bank angle inputs made through the wireless joystick. The software should be able to provide a left and right bank angle display versus time. In addition, the software should be able to export raw data to be used for statistical analysis in SPSS. Finally, the ability to timestamp galvanic vestibular stimulation (GVS) administration and the initiation of Barany chair rotation on this display and the raw data will be needed.
3.) Operate a System 2000 motorized Barany chair (Micromedical Technologies, version 6.0, copyright 2002) using the manufacturer's software on Windows 98.

Requirements:
- USF student, graduate student, or faculty member with experience in computer engineering, computer science, or relevant engineering field.
- Aviation experience would be beneficial, but is NOT required.

If interested, please contact the Principal Investigator Josh Shultz at (jtshultz@health.usf.edu) or the Co-Investigator Vince Van Berkum at vanberkum@health.usf.edu .

Coming Soon: Campus Analytics Challenge 2019

👁 **Register for this Challenge**
you'll find out when it launches

$15,000
top 5

🕑 **2-5** days until launch

5 winners will each receive $3,000. Winners will be awarded directly from Wells Fargo.

Entrants will need to be actively enrolled in a higher education degree program in the U.S.

The annual Wells Fargo Campus Analytics Challenge will be opening the second week of July 2019! Register now to be the first to find out when it launches and to get the latest updates on the challenge prompt!

This year's Campus Analytics Challenge will be best suited for those students studying data science at a graduate level. However, we will welcome undergraduates to tackle it as well!

Deliverables

This year's challenge will be within data science in one of the following two areas:

- natural language processing
- machine learning

Specific deliverables will be posted at a later date!

Submissions will be graded on the following criteria:

- Rating

Visit https://www.mindsumo.com/contests/campus-analytics-challenge-2019 for more information