Dear CSE Students:

Welcome to the first newsletter of the Spring 2019 semester.

**Message from the UG Advisor:** Now that the spring term is underway, you may want to firm up your plans for a summer internship. The Career Fair is scheduled for mid-February. You can start preparing now. See the Career Services website for details and information to help you prepare. Speaking of internships, you can access Handshake to search for internship opportunities. Watch your email for notices about resume reviews in ENB. Now is also the time to gear up for Engineering Expo which occurs February 15th and 16th. Your CSE advising team is available if you have questions. You can find our Walk-in Advising schedule on the CSE website.

**Message from the Grad Program Assistant:** Welcome back and welcome to USF to all new students!
- Please make sure that your schedules are finalized by the end of drop/add week (January 11). If you are not an RA/TA, your tuition fees must also be paid by January 11.
- If you have been appointed as an RA/TA, do not forget to submit your Tuition Waiver form as soon as possible. Your tuition fees will be due February 22 by 5pm (if you are on GEMS by January 11 by 5pm)
- TA Orientation will be January 11 at 2:00pm in ENB 313.
  See me in ENB 342D if you have any questions.

Attached are announcements for the following (please note that this listing does not imply University or Department endorsement):
- CIS 4930/6930 Privacy-Preserving and Trustworthy Cyber Infrastructures
- I-Corps Program Spring 2019
- GSL Solutions Internship
- Alexa Skills Challenge: Multimodal
- Twitch AWS Extensions Challenge
- Microsoft Graph Security Hackathon
- Safran Manufacturing Test Lab Internship/Co-Op Assignment
- Safran Manufacturing Engineer Support Internship/Co-Op Assignment

Regards,

Ken Christensen
Professor and Associate Chair of UG Affairs
CIS 4930/6930 Privacy-Preserving and Trustworthy Cyber Infrastructures

TR 9:30 AM - 10:45 AM, BSN 2205

This course is opened for CSE undergraduate and graduate students. It is a Theory Elective for Undergraduate Students

Instructor: Attila A. Yavuz (attilaayavuz@usf.edu), http://www.csee.usf.edu/~attilaayavuz/

- **Course description:** This course will explore emerging cyber-security technologies that will play a vital role in addressing the security challenges of critical cyber-infrastructures. It will investigate foundational cyber-security methods that will provide security for emerging technologies such as blockchains, bitcoin, vehicular networks or distributed cloud systems. This course focuses on privacy enhancing technologies such as encrypted databases, searchable encryption and private information retrieval. This course also covers light-weight and delay-aware authentication techniques. This course explores the state-of-art applied cryptography research problems and solutions via literature survey and research projects. Some aspects to note:
  
  - Pre-requisites: COP 4530 and CDA 3201.
  - This course has no midterm or final exam. It requires a survey/research project and presentation.
  - A high-performance and a successful completion of the survey/research project may lead into a paid cryptographic programming positions (depending on the funding and availability).
  - Undergraduate students will write a survey report (group study) and two homeworks, while graduate students are required to write a full research report and more homework.

Selected topics to be covered:

- Cryptographic foundations and building blocks that are used in real-life (e.g., e-commerce)
- Security for Internet of Things and Systems (IoTS)
- Cryptographic Digital Forensic Schemes
- Cloud computing is a key technology trend, but with many cyber-security challenges:
  - How can we achieve the privacy and utilization of data on computing clouds?
- Security and privacy on emerging wireless systems, location privacy.
- Security in blockchain, post-quantum secure smart-grids and reliability mechanisms.

By the end of this course, successful students will have a good understanding of cyber-security and cryptography essentials, which will help them as a differentiating factor to obtain competitive R&D positions in industry. Furthermore, the students will gain experience on conducting research and creating research-focused executive reports that explore scouting, comparison and analysis of prominent cyber-security technologies targeting critical real-life applications. Please email to Dr. Yavuz for questions.
Spring 2019 USF I-Corps Program - Apply Now!
Deadline January 25, 2019

From Concept to Commercialization

USF Faculty & Students:

If You’ve Got a Great Idea for a Product, Technology or Service

The USF I-Corps Program Can Help You Take It to the Next Level

• Find and talk with potential customers
• Develop a successful business model
• Turn your technology into a commercially viable product
• Participating teams receive up to $3,000

Sign up now for this 6-week workshop

Mondays, 1pm – 4pm on

2/4, 2/11, 2/25, 3/4, 3/18, 3/25

In USF Research Park

Deadline: 1/25/2019

For More Information:

http://innovation.usf.edu/icorps
icorps@usf.edu
Internship Description for GSL Solutions (www.gslsolutions.com)

We are seeking candidates for a part-time to full-time internship that have some PHP experience in Drupal 7 and 8 to work with our team.

About GSL Solutions

GSL is a local Tampa based company that has been in business since 1999. We are a small company that is one of four companies authorized to provide web services to the US Senate. We currently service over 44 Senate offices. We also provide services to a large number of US House of Representative offices. GSL also provides web site services to a large number of commercial, municipal, schools, and non-profit organizations.

Our goal is to work with students interested in a career in the web development field. We have paid internship positions available to provide opportunities to apply classroom studies to real world challenges. This internship offers the ability to perform significant work for our high profile clients. We hope to find candidates that will grow into full-time colleagues.

Job Responsibilities

- Custom programming and web application development for Drupal 7/8 projects
- Site Building, theme development
- Testing, maintenance and troubleshooting of existing company code and sites
- Contributing ideas and efforts towards internal projects and working as part of a team to find solutions on various problems

Skills to be applied

- Drupal 7/8, including custom and contributed module development, and core API
- Site building, maintenance and administration of Drupal modules and sites
- Integrating open source and third-party applications into existing systems
- Use of HTML, Javascript, and CSS
- Using Git and SVN
- Understanding of relational databases and SQL (MySQL and MS-SQL)
- Working with Node.js
- MySQL or MS-SQL server administration
- Experience using cloud environments
- Setting up and configuring Continuous Integration / Deployment
- Learning to communicate technical ideas to business users and other teams
- Collaborate with team members and to work independently
- Learning to embrace current and emerging web technologies
- Desire to jump in and perform code reviews for other team members
- Asked to handle a fast-paced work environment, deadlines and new challenges

Qualifications

- Experience writing HTML, JavaScript, and CSS, and all aspects of the LAMP stack
- Drupal development experience

Contact Information

Michael Gaines
mg@gslsolutions.com or 813-785-6709
Alexa Skills Challenge: Multimodal

Build (or update) Alexa skills using Alexa Presentation Language (APL) that leverages the screen on one of the following devices: Fire TV, Echo Show, Echo Spot, and Fire Tablets.

- Prizes: Up to $150,000 in cash and prizes
- Deadline: January 22, 2019
- Learn more and register at alexamultimodal.devpost.com
Twitch AWS Extensions Challenge

Build Twitch Extensions for viewers, broadcasters, or both. Extensions can be in any category and any theme, as long as it uses integrates at least one AWS service.

- Prizes: Up to $26,500 in cash and prizes
- Deadline: February 26, 2019
- Learn more and register at twitchdev.devpost.com
Microsoft Graph Security Hackathon

Build or update a functioning Microsoft Graph-powered solution that leverages the Microsoft Graph Security API. (Note: Please review the complete requirements on the website)

- Prizes: Up to $15,000 in cash, promotion and a speaking opportunity at Microsoft Build 2019
- Deadline: March 1, 2019
- Learn more and register at graphsecurityhack.devpost.com
Engineering Internship/Co-Op Assignment

Location: 2250 Whitfield Ave, Sarasota, FL, 34243
Start Date: January, 2019

Objectives:
- Plan, manage, and complete small/medium scale electrical and/or mechanical projects.
- Support test, mechanical, and manufacturing engineering
- Support new product development
- Hold meetings to review progress and accomplishment tracker

Key Tasks:
90% - Test and Manufacturing Engineering Support
- Complete a small/medium scale project involving electromechanical components to automate various processes.
- Optimize, analyze, and support production processes and equipment.
- New process and equipment fabrication, programming, and troubleshooting.
- Troubleshooting issues with automated test equipment (ATE) (Hardware or software)
- Application of statistics/programming to analyze large databases (MS Access, MS Excel, or Python)
- Develop simple hardware and software to automate daily processes.
- Usage of 3D Printing, actuator control, sensors, PLC, LabVIEW, VBA, VB.net, C#
- Create CAD models of fixtures, brackets, or other custom prototype equipment.
- Daily office tasks (specify, ship, or purchase parts, following up with suppliers and contractors)

10% - New Product Development
- Prototype fabrication (basic electrical and machining work, 3D printing, working with machine shop)
- Product qualification support
- Post-test analysis
- Interacting and supporting design engineers.

Skills Required:
- Microsoft Excel (analysis automation, statistical data analysis of larger data sets)
- National Instrument LabVIEW (Basics)
- Any 3D CAD software (Solidworks, pro-engineer, etc.)
- Basic machine shop skills/experience (drill press, mill, band saw).
- Basic electrical circuits (ie. Ohms law, voltage divider, shunt resistor, switches, relays)
- Programming experience in any procedural or object-oriented language (ie. Matlab, C#, Arduino).
- Project planning and organization skills.
- Positive attitude, responsible, proactive, self-motivating, and the ability to learn efficiently and under pressure.
- Highly results oriented.
Skills desired, but not required:
- Microsoft Excel, Access, Visio, Project
- PTC Creo
- Basic Tolerancing and GD&T
- Python
- VBA
- .NET (Visual Basic/C#)
- C/C++
- Experience with PLC ladder logic programming
- National Instrument’s cDAQ hardware and interfaces.
- Electrical analysis equipment (Oscilloscope, multimeter, etc)
- Electronics soldering and wiring.

Training/Experience Required:
- Overall GPA 3.2/4.0 or above
- Candidate should have completed 3+ years of cumulative college or university course work leading to Bachelors, Masters, or Doctorate Degrees in an engineering discipline.
- This position requires use of information or access to hardware, which is subject to the International Traffic in Arms Regulations (ITAR). All applicants must be U.S. persons within the meaning of ITAR. ITAR defines a U.S. person as a U.S. Citizen, U.S. Permanent Resident (i.e. 'Green Card Holder'), Political Asylee, or Refugee.

This description has been designed to indicate the general nature and level of work performed by an employee within this position. The actual duties, responsibilities and qualifications may vary based on assignment or group.

All qualified applicants will receive consideration for employment without regard to race, color, age, ethnicity, religion, sex, sexual orientation, gender identity, national origin, disability, veteran status, genetic data or other legally protected status.

The student applicant must be able to provide official proof of current enrollment in an accredited engineering college or university.
Engineering Internship/Co-Op Assignment

Location: 2250 Whitfield Ave, Sarasota, FL, 34243
Start Date: January, 2019

Objectives:
- Plan, manage, and complete small/medium mechanical and manufacturing projects.
- Support manufacturing engineering
- Troubleshoot and monitor mechanical and electromechanical equipment.
- Fabricate and implement fixtures, brackets, etc.
- Support new product development
- Hold meetings to review progress and accomplishment tracker

Key Tasks:
80% - Manufacturing Engineering Support
- Complete a small/medium scale project involving mechanical or electromechanical components for various departments and processes.
- Optimize, analyze, improve, or support production processes and equipment.
- Machining or 3D printing of various fixtures, brackets, or needed equipment parts.
- Troubleshooting hardware issues with automated equipment.
- Application of statistics in MS Excel or other programming languages
- Create CAD models of fixtures, brackets, or other custom prototype equipment.
- Daily office tasks (specify, ship, or purchase parts, following up with suppliers and contractors)
- Help write technical reports such as statements of work or project justifications.

20% - New Product Development
- Prototype fabrication (basic electrical and machining work, 3D printing, working with machine shop)
- Product qualification support
- Post-test analysis
- Interacting and supporting design engineers.

Skills Required:
- Good machine shop skills/experience (ie. drill press, mill, band saw, lathe)
- Mechanically oriented (fabrication, assembly)
- Manufacturing process analysis and documentation
- Microsoft Excel (basic statistical data analysis of larger data sets)
- Any 3D CAD software (ie. Solidworks, pro-engineer, etc.)
- Basic electrical circuits (ie. Ohms law, voltage divider, shunt resistor, switches, relays)
- Project planning and organization skills.
- Positive attitude, responsible, proactive, self-motivating, and the ability to learn efficiently and under pressure.
- Highly results oriented.
Skills desired, but not required:

- Microsoft Excel
- PTC Creo
- Basic Tolerance and GD&T
- Some experience with PLC ladder logic programming
- Electrical analysis equipment (Oscilloscope, multimeter, power supply)
- Electronics soldering and wiring.

Training/Experience Required:

- Overall GPA 3.0/4.0 or above
- Candidate should have completed 3+ years of cumulative college or university course work leading to Bachelors, Masters, or Doctorate Degrees in an engineering discipline.
- This position requires use of information or access to hardware, which is subject to the International Traffic in Arms Regulations (ITAR). All applicants must be U.S. persons within the meaning of ITAR. ITAR defines a U.S. person as a U.S. Citizen, U.S. Permanent Resident (i.e. 'Green Card Holder'), Political Asylee, or Refugee.

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