Dear CSE Students:

Welcome to the final newsletter of the Summer 2021 semester.

<table>
<thead>
<tr>
<th>Message from the UG Advisor: None for this issue.</th>
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**Message from the Grad Program Assistant:**

- Tuition and fees are due on **Friday, July 23 at 5:00PM** for graduate assistants with tuition waivers, students with billed Florida prepaid tuition plans or with financial aid deferments to avoid $100 late payment fee.
- Fall registration is in process. Please check your OASIS account now for your status and time ticket. If you have any holds, they will need to be removed before you can register. **The SI and IM holds are removed by Student Health Services.** Please see the website for details [https://www.usf.edu/student-affairs/student-health-services/holds/](https://www.usf.edu/student-affairs/student-health-services/holds/)
- Students who plan to graduate in Fall 2021, please make sure to check your OASIS to be sure you do not need to transfer any courses and that you do not have any "M" or "I" grades. **You also need to you turn in a FINAL plan of work before the semester starts and be sure to register for any remaining requirements to complete your degree.** For thesis students, your committee form needs to be submitted the semester before you plan to graduate.
- **PhD Students** - If you are planning to do your major area presentation this semester, please be aware of the following deadlines: **You MUST have your committee form submitted to me by July 23.** The admission to candidacy form cannot be submitted until after you complete your major area presentation. The form is due to Grad Studies by the last day of the semester. You should do your presentation and get all the forms signed and submitted to me by **August 4th at the latest**, so that they can be processed in time. **You MUST be registered for credits the semester you apply for candidacy**, so if you are not registered this summer, you will need to wait until fall to submit the forms.

Please note that the below listing does **not** imply University or Department endorsement:

- Free Tutoring for Engineering Students Online
- LGBTQ+ Tech Conference
- IT Support Assistant Job Opportunity with USF Advancement Operations
- Software Engineering Internship – Green Hills Software
- OPSWAT Software Engineering Fall Internship
- OPSWAT Software Engineering Spring Internship
- Associate Data Engineer Position at Raymond James
- Quality Assurance Engineer Job Opportunity with McCloud Transportation + Associates, LLC
- Upcoming Hackathons

Regards,

Ken Christensen
Professor and Associate Chair of UG Affairs
We can help with:

<table>
<thead>
<tr>
<th>Math Symbols</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Calculus, Physics</td>
<td>Programming</td>
</tr>
<tr>
<td>Statics, Dynamics</td>
<td>Matl&amp;EnergyBals</td>
</tr>
<tr>
<td>Electrical Systems</td>
<td>And more…</td>
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</tbody>
</table>
For further instructions, details and schedules:

Or go to:
https://www.usf.edu/engineering/student-services/academic-resources/engineering-tutoring.aspx
LGBTQ+ TECH STUDENT?

KICKSTART YOUR CAREER. APPLY NOW.

OUT FOR UNDERGRAD
TECH CONFERENCE

> Network with inspiring LGBTQ professionals and recruiters
> Explore exciting, fulfilling opportunities in software development, startups, & VC
> Build friendships with LGBTQ peers nationwide
> Engage in an all-virtual conference for 2021

MEET RECRUITERS FROM FIRMS LIKE

Google  FACEBOOK  Twitter
Microsoft  stripe  Peloton
Spotify  slack  BlackRock

APPLY AT OUTFORUNDERGRAD.ORG
Job ID: 27606

Hourly Wage: $10.00

Average Number of Hours per Week: up to 20

Schedule: Somewhat flexible within business hours of 8am – 5pm

Job Summary
An Information Technology Support Assistant performs technical support work for users of computers and peripherals for an assigned department, college, or other unit. This position assists users with the installation, troubleshooting, maintenance, and support of information technology hardware and software.

Examples of Duties
The following list provides examples of the most typical duties for positions in this job class. Individual positions may not include all of the examples listed, nor does the list include all of the work that may be assigned to positions in this job class.

- Diagnose and provide support on computer system problems, including debugging, correcting, repairing, servicing, examining, installing, training, and troubleshooting computer hardware, printers, and other peripherals.
- Provide assistance to faculty, staff, and students on the use of software and hardware.
- Upgrade software and hardware on existing computers.
- Perform initial installation and configuration of information technology hardware, software, and peripherals.
- Provide assistance with technology requirements in conference rooms, and other remote locations, including setting up laptops, projectors, microphones, network and internet access.
- Gather, research and communicate pricing on computer equipment and peripherals.
- Other duties as assigned.

Minimum Qualification Requirements
Must be currently enrolled at University of South Florida in a technical program such as Information Technology, Cyber Security, Computer Science, or similar. Must be able to move at least 50 pounds. Read and follow written instructions. Candidate works will in a fast-paced environment, possesses strong oral and written communication skills, and works well independently or with a team.

To Apply
Submit application via the Careers@USF website (https://www.usf.edu/work-at-usf/careers/browse-apply-for-job-openings.aspx)

Contact Information for Questions about Recruitment: Shayla Johnson at shjohnson@usf.edu
Software Engineering Internship – Fall 2021 (Palm Harbor, FL)

Job Description

We are looking for current Computer Science or Computer Engineering students to join our software engineering team in Palm Harbor, FL for fall 2021 internship positions.

The Software Engineer’s role is to develop, create, upgrade, and maintain software applications that fully exercise features of the INTEGRITY-178B operating system to verify the functionality and correctness of the software. As a Software Engineer, you will be responsible for ensuring Green Hills Software safety-critical products are safe for our customers to build vehicles, medical devices, and industrial control systems that people's lives depend on every day.

The Software Engineer will develop a detailed knowledge of operating system internals, while using the latest in compiler and debugger technology from Green Hills. As a Software Engineer, you will have the opportunity to work with RTOS components ranging from board support packages and device drivers (Serial, Ethernet, Flash), architecture support packages (PowerPC, MIPS, ARM, x86), networking stacks, file systems, language libraries (C, C++, Ada), and the core kernel itself.

Duties

- Assessing and ensuring the high safety standards for our products
- Creating validation tests for requirements functionality, robustness, boundary values, and equivalence classes
- Analyzing, improving, and reporting on system code coverage
- Participating in requirement, design, and code reviews for changes to safety-critical products
- Attaining proficiency with operating system internals:
  - Kernel/Virtual Address Spaces
  - Memory management
  - Task management / Scheduling
  - Connections / Semaphores
  - Clocks / Timers
- Analyzing multi-core processor issues
  - Inter-processor interference
  - Shared resource contention
  - Timing and throughput

Requirements and Qualifications

- U.S. Citizen (U.S. government contract requirements)
- Currently pursuing a Bachelors or Masters of Science degree (Computer Science, Computer Engineering, and/or Math)
- Minimum of 1 year of coursework with 3.0 or higher GPA
- Strong programming skills in C / C++
- An understanding of the concepts of real-time operating systems
- Ability to learn and understand how complex software systems work
- Excellent communication (both written and verbal) and organization skills
- Must be willing and able to work independently and with little supervision

Requirements and Qualifications

- Competitive pay
- Casual work environment
- Flexible hours (20-30 hours per week)
Software Engineering Internship (Palm Harbor, FL)

How to Apply

Qualified candidates are encouraged to send a resume to:

fljobs@ghs.com
Reference: Software Development Internship,
Palm Harbor Recruiting Manager Green Hills Software

About Green Hills Software

Green Hills Software is a world-renowned, market leading provider of high-performance software tools for developers of embedded systems. Green Hills produces real-time operating systems (INTEGRITY, INTEGRITY-178 tuMP, and μ-velOSity), an integrated software development environment (MULTI), optimizing compilers, and debugging hardware for use in embedded system development. Green Hills Software is the largest independent vendor of embedded software solutions.

Green Hills’ Safety and Security Critical Products division is located in Palm Harbor, FL, and offers its employees challenging technical careers. With about 30 employees in this office (and about 250 company-wide), Green Hills Software is small enough to allow individuals to be noticed and recognized for their contributions, but big enough to be a stable leader in its market. Our management staff is a unique blend of experienced professionals that enable us to provide a dynamic and flexible work environment to adapt and meet the rapidly changing requirements of our workforce and customers, while also ensuring that our products can meet the most stringent standards of safety and security.

Green Hills Software is an Equal Opportunity / Affirmative Action Employer.
Fall 2021 Software Engineering Internship

The Position:

We are looking for current Computer Science or Computer Engineering students to join one of our software development teams in Tampa, Florida for Fall 2021 internships. If you are a current student or a student taking a gap year due to COVID and are interested in designing and building unique security software that no one else is building, then this exciting opportunity is for you. As part of a larger team, you will be given project-oriented work helping develop professional cybersecurity solutions used to protect critical infrastructure around the world. You will get exposure to every stage of the software development lifecycle, planning, design, coding, testing, and deployment amongst other stages.

What You Will Be Doing:

- Project oriented hands on coding assignments and professional development activities.
- Using latest cloud and on-premise technology stacks.
- Contributing to the design and architecture of the solutions you work on.
- Enhancing the automation testing framework to achieve test driven development.
- Starting your career as a software engineer under the mentorship of experienced team members.
What We Need From You:

- A passion for Cybersecurity and learning.
- Progress toward a Bachelor’s Degree or higher in Computer Science, or a related major.
- Examples of extracurricular programming projects (e.g. on Github).
- Strong collaboration and communication skills.

About OPSWAT

OPSWAT is a global leader in critical infrastructure cybersecurity that helps protect the world’s mission-critical organizations from malware and zero-day attacks. To minimize the risk of compromise, OPSWAT Critical Infrastructure Protection (CIP) solutions enable both public and private organizations to implement processes that ensure the secure transfer of files and devices to and from critical networks. In total, 98% of U.S. nuclear power facilities and more than 1,000 organizations worldwide spanning Financial Services, Defense, Manufacturing, Energy, Aerospace, Transportation Systems trust OPSWAT to secure their files and devices; ensure compliance with industry and government-driven policies and regulations, and to protect their reputations, finances, employees, and relationships from cyber-driven disruption. For more information, visit www.opswat.com.

To apply for this position, please send your resume and cover letter to us via JobScore. Special consideration will be given to those candidates whose cover letter indicates that they have viewed our website. Please, no drop-ins, calls, or faxes.

Interested in this position?

APPLY FOR THIS JOB
Spring 2022 Software Engineering Internship

The Position:

We are looking for current Computer Science or Computer Engineering students to join one of our software development teams in Tampa, Florida for Spring 2022 internships. If you are a current student or a student taking a gap year due to COVID and are interested in designing and building unique security software that no one else is building, then this exciting opportunity is for you. As part of a larger team, you will be given project-oriented work helping develop professional cybersecurity solutions used to protect critical infrastructure around the world. You will get exposure to every stage of the software development lifecycle, planning, design, coding, testing, and deployment amongst other stages.

What You Will Be Doing:

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To apply for this position, please send your resume and cover letter to us via JobScore. Special consideration will be given to those candidates whose cover letter indicates that they have viewed our website. Please, no drop-ins, calls, or faxes.

Interested in this position?

APPLY FOR THIS JOB
Associate Data Engineer Position at Raymond James

Interested in starting your career in a fantastic firm with a challenging opportunity! The Raymond James Technology organization is hiring for an Associate Data Engineer. The right candidate will join the IT Enterprise Data and Analytics Team.

Do you have a strong understanding of Data Architecture, have you completed data platform coursework to support a data science team on a cloud platform, and have a strong SQL and Python background? Are you highly skilled in written and verbal communications, comfortable presenting to audiences of all sizes and at all management levels, able to apply critical thinking to “connect” the dots and address downstream impacts to processes/systems/people, a creative problem-solver, and able to effectively analyze problems to provide viable solutions. If so, this opportunity may be for you!

Apply Here

(job ID is 2101575 on Raymond James Job Search)

Candidates of interest will be contacted by the Raymond James Human Resources Department.

Note: This opportunity is available immediately and does not offer sponsorship.
Title: Quality Assurance Engineer (Full-Time Temporary Not to Exceed One Year))
Location: Odessa, Florida
Status: 40 Hours / Week
Education: Post-Graduate Master’s Degree
Compensation: $70,000 - $80,000 based on experience
Start Date: July 2021 (Tentative)

DESCRIPTION:
McCloud Transportation + Associates, LLC is a leading national, multidisciplinary transit management consulting firm headquartered in Odessa, Florida, with a focus on the multimodal transportation (rail, bus, air) industry to meet the safety and mobility challenges of the 21st Century. The firm serves as a subject matter expert to the public and private sector transit industry with a focus on performance management, data analysis, and compliance with federal regulatory agencies such as the U.S. Department of Transportation (USDOT), Federal Railroad Administration (FRA), Federal Highway Administration (FHWA) and Federal Aviation Administration (FAA). McCloud Transportation is seeking a Quality Assurance Engineer to assist in conducting a Positive Train Control (PTC) Data Distillation Tool (DDT) Project. The incumbent will work as a subcontractor to Parsons Inc. (https://www.parsons.com/market/critical-infrastructure/); a global transportation infrastructure firm for a period of one-year to ensure that Metra Commuter Rail meets the reporting requirements of the Federal Railroad Administration. (FRA).

The assignment real-time notifications and automated reports. The Data Distillation Tool (DDT) functionality will require as much analysis as possible with all data available to the tool. Metra currently uses a Continuous Onboard Systems Management Agent (COSMA) to collect onboard events and attributes of system components and configurations. COSMA tracks communications transport quality and availability, usage and GPS events and failures. These events and statistics are stored in a MySQL database.

DUTIES AND RESPONSIBILITIES
This position will report to the Consultant’s Project Manager and Engineering Manager. Under the direction of the Project Manager, this position will ensure that the project and staff are complying with the project Quality Management Plan and Metra’s Third-Party Contractor Quality Management Plan. In addition, the Quality Assurance Engineer will assist the Engineering Manager in ensuring the project’s software is to the Software Requirements as well as maintaining the integrity of the data generated from the software.

The successful candidate will:

- Be familiar with navigating databases and data warehouses.
- Find trends within the dataset in order to make improvement suggestions to the dashboard.
- Identify if data is being improperly/ineffectively labeled, classified, or shown.
- Generate data queries on-demand.
- Interpret the data to make actionable recommendations to the railroad.
- Be able to comprehend a basic understanding of PTC railroad operations.
- Learn how to navigate Parsons’ RailPulse software.
- Understand software requirements and discern whether software is compliant.
- Be competent in data visualization and analytic tools.
And other tasks as needed.

Experience and Qualifications

- Bachelor of Science in Engineering, Computer Science, Data Science, or Analytics. Master’s Degree preferred.
- Microsoft Office experience.
- Outstanding oral and written communication skills.
- Experience in the transportation industry is preferred.

Expectations for additional engineers qualified in two or more of the categories below:

- **Senior Level Python Development**
  - Threading and multi-threaded applications
  - Package management
  - AMQP libraries, pika specifically
  - AWS with boto3

- **AWS**
  - AmazonMQ
  - SQS
  - SNS
  - Quicksight
  - CloudWatch

- **Database Administration and Data Management**
  - Postgresql
  - ElasticSearch
  - Dimensional modeling / Ralph Kimball techniques

- **Domain Knowledge**
  - Messaging and messaging systems (JMS, MQ, AMQP, etc.)
  - PTC / IETMS
  - Rail Operations

CONTACT INFORMATION:
Send cover letter and resume to:

Name: Elaine R. McCloud, President and Chief Executive Officer
Phone: (813) 920-8683
Email: Elaine@McCloudTrans.com
Hackathons

July 9 (Theme: Blockchain, Fintech, Gaming): HackonLisk

The Square Unboxed Hackathon
CHALLENGE: Build (or update) apps or snippets using Square’s APIs and SDKs.
ELIGIBILITY NOTE: Must reside or are incorporated in the U.S., U.K., Australia, Ireland, Japan, or Canada (excluding Quebec). See full rules for details.
PRIZES: $60,000 in prizes
DEADLINE: July 12, 2021 5:00pm EDT

Ford Smart Vehicle Connectivity Challenge
CHALLENGE: Build a connected vehicle web or mobile application to assist drivers using the FordConnect API.
ELIGIBILITY NOTE: Participants must be legal residents of the United States or Canada (excluding Quebec). See full rules for details.
PRIZES: $25,000 in prizes
DEADLINE: July 16, 2021 5:00pm EDT