Dear CSE Students:

Welcome to the first newsletter of the new year.

| Message from the UG Advisor: | No message in this issue |
| Message from the Grad Program Assistant: | I hope you are all having a great first week! You are still able to make changes (add/drop classes) during add/drop week from 1/11 - 1/15. Your schedule should be final by the end of add/drop week at 5pm on 1/15. If you need a permit for a class, you need to submit the COMPLETED plan of work for approval first. If approved, I can issue permits for classes in our department. For classes in other departments, you will need to contact that department to get a permit. [https://www.usf.edu/engineering/cse/graduate/graduate-forms.aspx](https://www.usf.edu/engineering/cse/graduate/graduate-forms.aspx). If you need to register for thesis, independent study, or directed research, you must submit a signed grad contract to me, and I will register you for the course. I need these by 3:00PM on Friday 1/15 at the latest, so that you can be registered on time. [https://www.usf.edu/engineering/cse/documents/independent-study-contract-2017.pdf](https://www.usf.edu/engineering/cse/documents/independent-study-contract-2017.pdf). Students planning to graduate in Spring 2021 please be sure to submit your FINAL plan of work and graduation checklist to me as soon as possible. You also need to apply for graduation in OASIS by February 8. Please refer to the email that went out previously for details. For TA/RA - please be sure to submit your tuition waiver no later than Friday 1/15. Please refer to the email that went out previously for details. |

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

- PHD Opportunities at UF
- AWaRe: Advanced Wireless Research Experiences
- SII Internship
- Johns Hopkins Research Experience for Undergraduates
- REU: Undergraduate Research in Data Mining
- Computational Biology
- NSF Data Analysis and Statistics Summer Internships
- Cybersecurity Mentorship Program
- Full-time Job at IU Network Sciences Institute
- Spring 2021 RQ Cyber Security Training
- Student Position with The Institute of Applied Engineering
- Full-time Positions for Graduating Students
- From Concept to Commercialization
- 2021 NSF REU Site on Consumer Networking
- Paid Summer Research Programs
- Google: Code for Everyone
- Quantum Foundations

Regards,

Ken Christensen
University of Florida
Herbert Wertheim College of Engineering
Engineering School of Sustainable Infrastructure & Environment (ESSIE)

**Description:** The Green Engineering Technologies for the Community of Tomorrow (GETCOT) lab at the Engineering School of Sustainable Infrastructure & Environment (ESSIE), University of Florida, has multiple Ph.D. positions available for students with BS or MS in Computer Science or Mechanical Engineering. We are looking for highly motivated, outstanding applicants to work on Artificial Intelligence, Machine Learning, Deep Learning, and Robotics projects. The potential topics include:

- AI/ML for Sustainable Design of Autonomous Electric Vehicles
- Blockchain Applications in Sustainable Development
- Data Science to Address Sustainability Challenges
- Robotic-assisted Disassembly Systems
- Design of Lithium-ion EV Batteries

**Contact Info:**

Please send your CV and transcripts to Dr. Sara Behdad (sarabehdad@ufl.edu) at your earliest convenience to be considered for the Fall 2021 openings. The positions are filled quickly.

[https://getcot.essie.ufl.edu/](https://getcot.essie.ufl.edu/)
The Wireless Institute at the University of Notre Dame will conduct a 10-week summer undergraduate research program called Advanced Wireless Research Experiences (AWaRE). AWaRE provides opportunities for undergraduate EE and CSE majors to experience hands-on innovative research alongside faculty and graduate students and staff.

Students continuing college enrollment in the Fall of 2021 with interest in wireless networking, robotics, UVA’s and mobile computing are invited to apply. Women and minority students are encouraged to apply. Participants must be U.S. citizens or U.S. permanent residents. This Research Experiences for Undergraduates (REU) program is funded by the National Science Foundation (NSF).

Project Highlights

- $6,000 stipend
- Free on-campus housing
- Weekly food allowance
- Round trip travel allowance
- State-of-the-art research facilities
- Hands-on research alongside faculty and graduate students
- REU Symposium
- Professional development

Research Projects

- RadioHound: A Low-Cost Spectrum Sensor
- Mesh Assisted Devices for Real-Time Asset Tracking (MADRAT)
- Bringing 5G Smarts to Network Measurement
- Networked Robots: Coordination and Control
- High-Frequency Characterization and Modeling GaN Transistors
- Phased Arrays and Lenses for Low-Power 5G MMW Communications
- Wireless Microimplants for Deep Tissue Monitoring and Treatment
- Environmental Sensing using Passive WiFi Properties
- Collaborative Intelligent Radio Systems for Congested Wireless Environments
- Machine Learning for RF Information Leakage Characterization in Low Cost Bluetooth Implementation

Questions & Apply: http://wireless.nd.edu/
Deadline: February 10, 2021
STUDENT INNOVATION INCUBATOR

INTERN FOR A STUDENT-LED STARTUP

RESEARCH EXPERIENCE FOR UNDERGRADUATES IN COMPUTATIONAL SENSING & MEDICAL ROBOTICS

(CSMR REU AT JOHNS HOPKINS UNIVERSITY)

LABORATORY FOR COMPUTATIONAL SENSING AND ROBOTICS, COMPUTER INTEGRATED SURGICAL SYSTEMS & TECHNOLOGY ENGINEERING RESEARCH CENTER

Baltimore, Maryland

Program Dates:
June 2, 2021 - August 6, 2021

Stipend & housing provided!

Application due date:
February 21, 2021

Direct questions to
Dana Walter-Shock
dwalte10@jhu.edu

SUMMER PROJECTS

- Medical Robotics
- Brain Imaging
- Computer Vision
- Software development
- Multisensory Control in Locomotion
- Ultrasound & Photoacoustic Imaging
- Machine Learning & more!

Go to [http://lcsr.jhu.edu/reu](http://lcsr.jhu.edu/reu) for more information.
REU: Undergraduate Research in Educational Data Mining

Ten Week Research and Mentoring Program
Summer 2021

- explore learning analytics, data mining, and visualization techniques
- assist research projects that use data mining to study how we learn
- analyze educational domain data from MOOCs, individual classes, and longitudinal sources
- begin planning and exploring your career pathways

apply by February 15\textsuperscript{th}, 2021

$6000 stipend ∨ lodging and meals ∨ moving support

George Mason University
Computer Science

https://cs.gmu.edu/reu/
reu@cs.gmu.edu

Supported by the National Science Foundation
MAT-5932, MAT-4930  
Computational Biology  
CRN 13372, Section # 007; 3 CR  
College of Arts and Sciences,  
Department of Mathematics and Statistics

Semester: Spring 2021  
Class Meeting Days: TR  
Class Meeting Time: 2:00 – 3:15 pm  
Class Meeting Location: Online  
Instructor: Dr. Abdulmelik Mohammed  
Office Location: NA  
Office Hours: NA, video chat by appointment  
Phone Number: +8139936411  
Email: abdulmelik@usf.edu

If you are interested in this course, please see John Morgan to determine if/how this course can count as an elective towards your degree (for UG students).

Sequencing technologies are generating massive amounts of biological data, as exemplified with the seminal achievement of the sequence of the human genome in 2001. In order to efficiently analyze the big data obtained from the sequencing projects, researchers need to employ algorithmic design principles that systematically exploit the search space of mathematically formulated computational biology problems. In this course, students will learn about algorithmic techniques that allow them to analyze the massive the information content in the biomolecules that are at the core of life’s driving mechanism. Students will learn to model questions in molecular biology mathematically and how to solve them algorithmically. Equipped with the algorithmic foundations and especially with an experience gained on the application of algorithmic principles in molecular biology, students will be well prepared for applied research as bioinformatics analyst or computational biologist in research labs, industry players such as Illumina or governmental institutes such as the NIH’s NHGRI.

The prerequisites are a basic course in Linear Algebra (e.g. MAS 3105) and a basic course in Discrete Mathematics (e.g. MAD-2104 ). Consult with instructor if unsure. We use the textbook “An introduction to bioinformatics algorithms” as a guide for the lectures. Lecture slides based on the textbook will be made available.
NSF Data Analysis and Statistics Summer Internships

Apply Today!


Deadline: March 31, 2021 4:00PM EST

The National Science Foundation (NSF), National Center for Science and Engineering Statistics (NCSES) provides policymakers and the public high-quality information on the science and engineering enterprise.

This internship is for participants in a wide variety of fields including, but not limited to: Business Management, Communications and Graphic Design, Computer Sciences, Economics, Marketing, Mathematics and Statistics, and Survey Methodology.

What will I be doing?

As a Research Ambassador intern, you will have the opportunity to explore a federal career and gain a competitive edge as you apply your education, talent and skills in a variety of settings. You will learn and collaborate on projects that make use of expertise from a variety of fields, including survey methodology, survey statistics, economics and other social science disciplines to design, study, implement and conduct national surveys to measure the science and engineering enterprise. You will also be engaged in research projects, evaluation initiatives, surveys, data collection and specialized analyses.

What is the anticipated start date?

Exact start dates will be determined at the time of selection and in coordination with the selected candidates. Appointments are typically between May and September.

Where will I be located? Alexandria, VA (Washington D.C. area)

Appointments may result in a virtual placement due to COVID-19 impacts.

What are the benefits?

You will receive a competitive stipend for living and other expenses as determined by NSF. Stipends are typically based on academic standing, discipline, and experience. You may also be eligible to receive a health insurance allowance and reimbursement for travel expenses.

Learn more about the NCSES Research Ambassadors Program at https://orise.orau.gov/ncses/.

Questions? Email NSF-NCSES@orise.orau.gov
Cybersecurity Mentorship Program

We would like to draw to your attention to a new and upcoming cybersecurity mentorship program funded by the National Science Foundation (NSF). Please forward this information along to any colleagues, professors and students who may be interested.

The Evidence-Based Cybersecurity Research Group (EBCS) at Georgia State University (GSU) is currently recruiting highly motivated students with strong technical and computing skills that have a curiosity for cybersecurity. The program will take place virtually over the 2021 summer. In addition, the program will be accepting both undergraduate and graduate student applications.

This program will allow students the opportunity to engage with evidence-based tools and practices in the industry while working hand-in-hand with cybersecurity professionals in the industry. By doing so, students will be better equipped to join the cybersecurity workforce following their graduation.

In this mentorship program, students will be…

- Placed in security groups within companies/agencies and will be matched with a mentor to work with over the duration of the program.
- Attending weekly workshops where they will be introduced to the latest cybersecurity tools and learn to develop a research project to test the effectiveness of said tools.
- Receiving a $2,400 stipend for participating in the 2-month virtual program.

- Program Information - Apply here!

Application Due Date: January 31st, 2021

Program Date: June 7th, 2021 to July 30th, 2021

Ideal candidates for the role will possess as many of these qualifications as possible:

- Must be a U.S. resident and have work authorization in the U.S.
- Rising undergraduate seniors, Masters students or May 2021 graduates
- Technical experience, such as
  - Linux / Unix systems and tools, including command line
  - Knowledge of a primary scripting language (e.g., Perl, Ruby, Python)
  - Evidence of Computer Science and/or Computer Information Systems coursework
  - Critical reading and critical thinking research skills

For more information, please contact us at ebcybersecurity@gsu.edu.
Full-time Job at IU Network Sciences Institute
Full Stack Developer

Job Summary

The IU Institute for Network Science (IUNI) is seeking a full stack developer to fill a key role in designing and developing a large scale data storage and access system for a multi-year, multi-million dollar project. The developer will support and collaborate with IUNI's existing IT team and key stakeholders in the planning, design, programming, testing, implementation, and support of the system.

The developer will develop methodologies for extracting, manipulating, displaying, and securely storing data as needed to meet project requirements. Primary responsibilities will include: developing ground breaking, high performance, backend solutions, including APIs and Databases, to manage and query large data sets; developing web-based frontend interfaces to the data; managing cloud-based hosting and computing environments; and interfacing with existing systems to provide secure access across a variety of platforms.

This position is posted at a PAE-3IT level but may be filled at a PAE-2IT level depending on the candidate’s qualifications. Although they will be similar, the duties and responsibilities may differ if filled at the lower rank. Please see the Required Qualifications section below for the qualifications listed for each level.

Required Qualifications

PAE-3IT Requirements:

Bachelor's degree in Computer Science, Informatics, or a related field and two years of experience in programming (backend and frontend), web design / development, and working with relational databases.

Experience with backend programming (Python, Flask, or Node.js) and relational databases using SQL, specifically PostgreSQL. Experience with Single Page Applications (SPAs) with REST APIs. Advanced knowledge of frontend JavaScript frameworks (Vue.js, Angular, or React). Frontend design experience using a CSS Framework (Bootstrap, Sass). Basic Linux web server administration skills (Apache, nginx configuration, others). Experience with Docker containers. Ability to manage multiple large projects at once. Strong team player. Proven ability to adapt quickly to complex, existing projects with aggressive deadlines. Ability to communicate effectively.

PAE-2IT Requirements:

Bachelor's degree in Computer Science, Informatics, or a related field.

Experience in programming (backend and frontend), web design / development, and working with relational databases. Strong understanding of backend programming (Python, Flask). Strong understanding of relational databases using SQL. Understanding of frontend programming (HTML, CSS, JavaScript). Working knowledge of Linux. Strong team player. Proven ability to learn and adapt quickly to complex, existing projects with aggressive deadlines. Ability to manage multiple large projects at once. Ability to communicate effectively.

Apply: [https://go.iu.edu/3uZL](https://go.iu.edu/3uZL)
Dear students,

I am pleased to announce **SPRING 2021 RQ Cyber Security Training**.

Are you interested in a career in Cybersecurity? We have an excellent opportunity for you to participate in FREE training and receive a Cybersecurity Certificate from ReliaQuest.

We launched the first program in Fall 2018, and it was highly successful. While the program is highly technical, no prior technical skills or technical knowledge required. Your desire to learn is the most important factor.

Please see more information here:

https://www.youtube.com/watch?v=dylwsKifwac

Please note: all training for Spring 2021 will be virtual

To participate in **SPRING 2020 RQ Labs Cybersecurity Certificate program:**

1) Attend Information Security Boot Camp with Prof Daniel on Friday, **January 29**, 1-4pm via Teams
You can sign up here: [https://www.signupgenius.com/go/20F094FA5AE28A4FF2-cybersecurity](https://www.signupgenius.com/go/20F094FA5AE28A4FF2-cybersecurity)

2) Go through a brief screening interview with ReliaQuest representatives **Feb 1st – Feb 3rd (Online)**

3) Selected students will complete one pre-session on **Feb 10th, 1-4pm** (unless you have a class conflict) and 4 sessions on **Fridays, 2/19, 2/26, 3/5, 3/12 1-5pm, online.** Those will be hands-on sessions based on homework provided in advance.

Students who submit the Capstone project for the course will receive the Certificate of Completion.

Moreover, selected students will be invited to interview for a part-time job or internship or a full-time position with ReliaQuest.

As a reminder, this training is **open ONLY to US Citizens / Permanent Residents** for security reasons and **ONLY to currently enrolled in USF students**.

Kick start your career now!
RESPONSIBILITIES:

Defines the web strategy for the related Institute of Applied Engineering tasks consistent with the overall communication and public relations strategy for the organization. Interact with business stakeholders and technical team to understand needs and requirements. Consults with departments and end users on their web goals and development, ensuring that overall standards for appearance and usability are maintained for all web sites within area of responsibility.

Defines site objectives by analyzing user requirements and envision system features and functionality. Designs and develops user interfaces to web applications by setting expectations and features priorities throughout development life cycle. Architects, designs, develops and test front-end and back-end applications.

Proactively seeks out opportunities to add improvements to projects, systems and enhance team relationships. Develops web standards and guidelines for style, content, and code through research of current trends, usability testing of clients, surveys of clients and content administrators, university computer use policies, and relevant regulatory requirements.

Maintains and monitors the performance of the live website and ensure responsiveness of applications. Resolves website performance issues. Troubleshoots content issues. Manages and maintains the website back-end including the database, server integration and APIs.

Recommends system solutions by comparing advantages and disadvantages of custom development and purchase alternatives. Manages projects from conception to finished product, establishing timeframes and work schedules to meet deadlines. Supports users by developing documentation and assistance tools.

Works closely with Information Technology department staff to provide seamless process and continuous exploration of innovative ideas for web communication.
Marlabs is a Digital Technology Solutions company that helps companies adopt digital transformation using a comprehensive Digital360 framework comprising of Digital Product Engineering, Digital Automation, AI and Cognitive Platforms, Enterprise Analytics, Cloud, Digital Security and Digital User Experience; delivering a next-generation Digital Customer Experience.

Headquartered in New Jersey, United States, with 2,300 employees, Marlabs provides digital technology solutions to clients across different industry verticals, which include Healthcare and Life Sciences, Banking, Financial Services, Insurance, Airlines, Energy and Utilities, Education and Media, Retail, Manufacturing and Government.

We are currently hiring graduate students for following positions:

- Java Developer
- UI Developer
- Data Scientist
- Bigdata Developer

Required skills:

- Strong knowledge on database concepts and Object-Oriented programming.
- Coding experience on any programming language such as: Java/python/JavaScript/Ui/Big Data/
- DevOps
- Excellent communication skills.
- Master’s in computer science, Computer Engineering, IT, Electrical Engineering, Information Systems, Analytics, Data Science or related fields.
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! 100% Online! Mondays, 1pm – 4pm on
2/8, 2/15, 3/1, 3/8, 3/22, 3/29

100% Online!

Deadline: 01/29/2021

For More Information

http://innovation.usf.edu/icorps
Dear Colleague,

We are excited to announce that our **2021 NSF REU Site on Consumer Networking** is now accepting applications.

Could you **please help spread the word within your institution’s undergraduate student mailing lists** in the fields of Computer Science / Electrical and Computer Engineering / IT, and encourage them to apply? **Early application deadline is January 31, 2021**

For details, please see - [http://reu.rnet.missouri.edu](http://reu.rnet.missouri.edu)

For convenience of your local publicity purposes, below link has a flyer that you can email or print + post on relevant bulletin boards -

[http://reu.rnet.missouri.edu/Mizzou-CSREU-Flyer.pdf](http://reu.rnet.missouri.edu/Mizzou-CSREU-Flyer.pdf)
Most programs offer both a stipend and housing and travel support. Programs range across all STEM disciplines and all areas of the country! Deadlines are coming right up for most programs!

- **550+ programs for undergraduates**
- **50+ programs for graduate students**
- Use our [advanced search page](http://PathwaysToScience.org) to filter programs by multiple criteria
- Contact us with your level of study and disciplinary interests for help finding a program: ldetrick@ibparticipation.org
Happy Holidays from Google!

2020 is coming to a close. We hope you will find the time to unwind, rest and take care of yourselves during the month of December.

In this month’s newsletter:

- Save-the-dates for exciting Careers OnAir events in January 2021
- Explore DeepMind’s new AI system AlphaFold
- Learn more about how technology can help create a space for students
- Sign-up to participate in Google UX research studies
- Browse technical and graduate roles available (and more!)

Careers OnAir Virtual Events

We invite you to join us for a virtual event series. Each month we'll host a variety of workshops and discussions with Googlers to provide professional and technical skill building resources, as well as an inside look at Google's culture. Head to careersonair.withgoogle.com to register and add our upcoming sessions (highlighted and linked below!). Googlers will also be answering questions live via chat for most of our sessions.

Life as a Google PhD Technical Intern
Tuesday, January 12th @ 4:00PM PT / 6:00PM CT / 7:00PM ET

We recently sat down with 3 former PhD interns at Google to learn more about the technical PhD intern application process and their internship experiences in Software Engineering, Research, and Data Science. Register to hear that conversation and learn more about Google’s recruitment process for these PhD internships. Google recruiters will also be available to answer your questions live via chat!
Google Employee Resource Groups Spotlight Series
Jan 25th - 29th @ 4:00PM PT / 6:00PM CT / 7:00PM ET

Here at Google, in building a workforce that is more representative of our users and a workplace that creates a sense of belonging for everyone, we are building a better Google - together. Employee Resource Groups are a key piece to building our culture. Currently, we have 16 Employee Resource Groups (ERG's) with over 35,000 members globally! We're excited to highlight 5 of these groups - The Black Googler Network (BGN), The Hispanic/ LatinX Googler Network (HOLA), The Women Googler Network (Women@), The Google American Indian Network (GAIN), and The Disability Alliance Network (DA).

Starting on Jan 25th we’ll be posting a video each day throughout the week where we’ll hear from members of these Employee Resource Groups as they share how they work together to make an impact within their communities and on Google's overall culture.

Watch Virtual Events On Demand
Missed an event? No problem, check out these videos available now!
This is an introductory course of the theory of quantum information and quantum computation. Overview of classical information theory, quantum information theory, quantum entanglement, quantum cryptography, quantum error correction. Linear Algebra or PHZ 3113 is required, some previous background in Quantum Mechanics is helpful but not required. For Physics Majors and others in Engineering and Science. Friday meeting is online Visit physics.usf.edu and click advising and permits under quick links. This course serves an introduction to concepts used in Quantum computation, communication, and algorithm courses in Engineering and CAS.