



CAS CADE

December 2022

Issue 3

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Dean's Message

Welcome to the third issue of CASCADE (December 2022), a digital publication from the College of Computing and Informatics (CCI) where we highlight and focus on our faculty, students, College activities and success stories. This is the second electronic publication the College produces in addition to our CONNECT magazine where we disseminate our impact activities and stories.



In this issue, we have compiled a number of success stories and great articles from across CCI communities on a wide range of topics including: the 3rd international conference on distributed sensing and intelligent systems which took place at the University of Sharjah, CCI interdisciplinary events, students competitions in the areas of coding targeting different applications to celebrate the UAE codes day, an event in collaboration with the colleges of engineering, sciences and business administration. In this issue, we also highlight the great achievement of our team from the department of Computer Science who won the 1st place in the GCC programming contest which took place in Oman this year. In addition, stories from our master students describing how we are integrating research and teaching in our master programs; and many other news and articles from our College, faculty members and students are presented in this issue.

And as always, we welcome articles and inputs from faculty members and our students to disseminate our activities, success stories and improve the content.

My thanks to all of you who contributed to this issue and we look forward to celebrating major achievements in 2022/23. The efforts you made, and the results to be hopefully achieved in this academic year, will help us sustain our great achievements in research, teaching and more noticeably the recent THE ranking result.

ICDSIS2022 Conference

The 3rd International Conference on Distributed Sensing and Intelligent Systems (ICDSIS2022) has been organized by the College of Computing and Informatics, University of Sharjah in October 19-21, 2022. ICDSIS2022 is a conference held annually as a forum for researchers, specialists and students interested in the field of intelligent systems and distributed sensor systems and their applications. The conference was organized in its first edition in Morocco, hosted by Ibn Zohr University in Agadir. The second edition was also organized in Egypt (online) due to the circumstances of the Corona pandemic. The University of Sharjah hosted the third edition this year in October.



The ICDSIS2022 conference is an opportunity for researchers to exchange scientific ideas in the field of smart systems and their applications, distributed sensor systems and their fields such as health and medical fields, artificial intelligence and its applications, and information security fields. Where researchers from different countries of the world present the latest research projects in the mentioned fields and the latest developments in their research work in these areas and the initial results they have reached.



Conference Themes

The conference is divided into two main axes:

- 1) distributed sensor systems.
- 2) smart systems and their applications.

Participants

Researchers, students, and faculty members from several Arab and international countries, such as the United States of America, the United Kingdom, Canada, Egypt, Tunisia, Australia, Russia, Portugal, Morocco and Saudi Arabia will participate in the conference. In addition to the participation of researchers and students from the University of Sharjah and universities within the United Arab Emirates.



Speaker's Words

Three senior international University professors specialized in the field of smart sensor beams and distributed systems presented keynote speeches at the conference.

Prof. Ahmed El Sherbini is Professor of Communications at Cairo University - Egypt and Rapporteur of the Communications Research Council of the Egyptian Ministry of Higher Education.

Prof. Raj Jain is a Professor at Washington University in St. Louis, USA.

Mr. Sean McGuire from Higher Education & Research (HER) EMEA at NVIDIA, England, United Kingdom.

Sponsors

University of Sharjah - Mansoura University in Egypt - University of North Texas in the United States of America.

Number of Participating Countries

The participation includes researchers from 32 countries.

Number of Participating Scientific Papers

A total of 118 papers were submitted, and 38 of them were selected to participate in the conference, with an acceptance rate of 32%.

Students' Corner

Opening Ceremony Google Event

Is an annual event organized by UOS GDSC. The purpose of the event is to introduce the Google Developer Student Club to all students. The event introduces Qwiklabs platform, how to join the club, and what are the goals and purposes of the club. The event was held in M9 on September 13th, and over 60 attendees.



Introduction to Programming in Python Event

Introduction to Programming in Python, is an event organized by UOS GDSC. The purpose of this event is to introduce programming concepts and programming basics using real world examples, and then coding a solution to a real-life problem. The event was held in M9 on September 26th 2022, and over 70 attendees.

ACM Student Chapter

ACM At Glance is an annual event organized by the UOS ACM Student Chapter. The purpose of this event is to introduce the ACM organization, the benefits of becoming an ACM member, and the resources that it provides. It also, introduces the students to the ACM Student Chapter, its significance, how to join the club, and what events are planned for the remainder of the academic year. ACM club held their first meeting of the semester in M9 on September 15th 2022, and over 80 students from various colleges as well as faculty members attended. Event included some fun quizzes and games, and introductions were made and new members were welcomed.



Hands on with AWS Experts

The College of Computing and Informatics at the University of Sharjah (UOS) in collaboration with Google Student Developer Club and UOS ACM Student Branch, organized a series of in-person workshops led by Amazon Web Services (AWS) experts, with the aim of exploring modern application development and the process of building new and modern apps using serverless technologies and tools to shift developer focus toward innovation and accelerate time to market.



“

“I am thankful for the amazing AWS event held today; I enjoyed it. It was not only a beneficial workshop with experts talking all about the serverless services offered by AWS and sharing their knowledge and experience in the field, but we also had the opportunity for hands-on practice in a great welcoming atmosphere filled with cheerfulness and enjoyment.” Meriem Aoudia said, a computer science student.

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The workshop was attended by a number of the UOS faculty members and students, and was opened by Prof. Abbas Amira, Dean of the College of Computing and Informatics, UOS, who highlighted the importance of these workshops that contribute to the development of student's skills and keep in pace with the modern applications in the field of Computing, pointing to the college's keenness to cooperate with various leading local and international institutes in the field of computer science. He also expressed his thanks to the organizers and participants from the UOS and the AWS for their remarkable efforts aiming to train and prepare generation of experts in this field.

“

I enjoyed doing the AWS workshop. It was really interesting and genuinely fun to work with the serverless system, especially with components such as the Step Functions. It does feel a bit intimidating at first for a beginner like me because of just how many features there are, but that's no drawback as it's proof of the versatility of the system and I can see its potential to rapidly accelerate development time and cut down costs dramatically. Abdalrahman Mohamed Elsheikh Eltahir said, a computer science student.

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Thankful for the great workshop, which prepared us for modern application development using serverless applications from IDE. Now I can say I am developer. Tamara Ahmad Nasro said, a computer engineering student.

”

The workshop included a set of informative sessions that discussed the serverless, event driven architecture (EDA), the process of building a serverless application on AWS for beginners and building next-gen applications with event-driven architectures, delivered by Eric Daniel Johnson, Principal Developer Advocate, AWS, USA and Zainab Al Alawi, Associate Solutions Architect, AWS, Bahrain and experts from Amazon are n UAE.

“

This was my first time having hands-on experience in AWS in deployment. Needless to say, it was an amazing experience, and now I'm seriously considering a career path related to DevOps because of it! Thanks to the great AWS team and everyone involved in setting up the workshop and I'm looking forward to join in on any upcoming events related to it.

Anas Khaled said, a computer science student.

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“

"t was a great experience to work with some of the world's experts to view the modern technologies. Karam Alshoura said, a computer engineering student.

”

Bootcamp Series

The ACM and Google Developer Student club have organized bootcamp series on deep learning covering several workshops. The event is in collaboration with GDSC of Middlesex University and ESI-SBA University. The workshops are held online on 4th, 5th, 11th and 12th of November from 6:00 to 8:00 PM.



College Student Participated in IAESTE

Maissan Salim from the Department of Computer Science has participated in the annual event of IAESTE Day 2022 to share her technical experience. The event took place on Wednesday 9th November 2022; at 10:00 AM. in the rotunda of M11.

The purpose behind this event is to explore in-bound & out-bound student's professional & cultural experience through The International Association for the Exchange of Students for Technical Experience (IAESTE) exchange program.





Women in IT and Open Source Session

The college in collaboration with the UoS ACM Student Chapter, Google Developer Student Club and IEEE Computer Society have organized the "Women in IT and Open Source session" delivered by the college partner Red Hat on Nov 14. More than 70 students from different majors across the university attended this event. The students got the chance to meet two brilliant women from Red Hat. It feels good to hear the stories of successful women in such a men dominants field. Thanks to Noha Kadry and Ruth O'Brien for this amazing session!!

Huawei ICT Competition 2022

College of Computing & Informatics in collaboration with ACM and Google Clubs invited Huawei to explain about ICT Competition.



Arduino Workshop by GDSC

Google Developer Student Club delivered an Arduino Workshop on Monday, 21st November. The students learned some of the basics of hardware programming. They have also created different small projects. At the end, a competition has been made among the students and three groups have won.



Computer Engineering (CE) Department Academic Advising Event

Presented Dr. Ali El-Moursy, with a brief about the Department of Computer Engineering, introducing the faculty members, and the programs offered in the department. Talked about some tips for new students in the department and how to communicate with the academic advisor and the importance of this step for new students. Dr. Ali emphasized on students to follow the chain of command in communication with the College. They have to start with their academic advisor, then the department chair then Dean, and so on if the issue is not resolved. Student representatives in the College council can also be utilized to resolve issues and deliver the concerns. He touched on some of the students' errors when communicating by e-mail with the doctors, such as writing errors, leaving the topic unclear, and not mentioning the details for the recipient to read and understand what is required.





Game Development Workshop by ACM Club

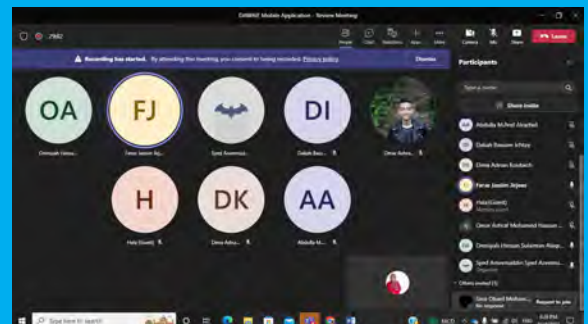
ACM Club delivered a workshop on "Game Development" on November 23rd. The students explored the field and art of Game Development. They understood the technical and design skills needed to create games. They also learnt about Game Engines and software Game Developers. Three students were awarded for creating their own Game in the workshop.



College Initiatives and Events

DAWAIE Application Developing

Collaboration of developing an application between colleges of computing and pharmacy where two teams from both colleges worked on DAWAIE Application in summer 2022.



Najah Expo Education Fair

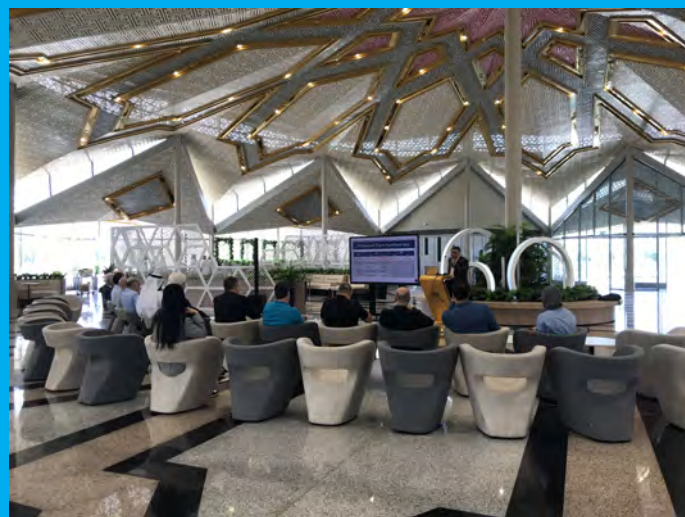
The Collage of Computing and Informatics students and graduates, have attended Abu Dhabi Najah Expo on Oct 17th 2022 and Dubai Najah Expo on 24th Oct 2022. They have presented the latest senior projects from both computer science and computer engineering departments to the visiting students. Also, they have guided the students to apply to the CCI programs, answered any concerns about the latest programs, and introduced the newest programs that are offered by CCI.

Meeting with the Computer Engineering Department Advisory Board

Under the patronage of Prof. Abbas Amira, Dean of The College of Computing and Informatics, and Dr. Ali El-Moursy, Chair of the Department of Computer Engineering, a meeting was arranged with the Department Advisory Board (DAB) members to seek their feedback/input on the 09th of October 2022.

In continuing efforts towards bridging the gap between the industry and the academia, the meeting runs to discuss how the department could enhance the skills of the graduated students. Dr. Ali El-Moursy, discussed the department details and highlighted with an emphasis on the department profile starting from 2016 to 2021. Masters and Bachelor of Computer Engineering program coordinators shared the program statistics. The discussion is followed by the DAB members' feedback and input. Advisory board members appreciate the inclusion of Masters and Bachelor of Cybersecurity Engineering programs and admire the diversity of courses and programs offered.

Board members highly advise adding the practical knowledge on how to interact with the organizations and social skills. Soft skills, emotional capabilities and intellectual competencies such as complex problem solving, creativity, empathy, or communication are extremely needed. All the advisory board members recommend to integrate research in teaching to add more innovative ideas and concepts to the teaching process. Participation in a lecture series such as seminars may encourage the students to investigate the research problems and develop problem solving skills.



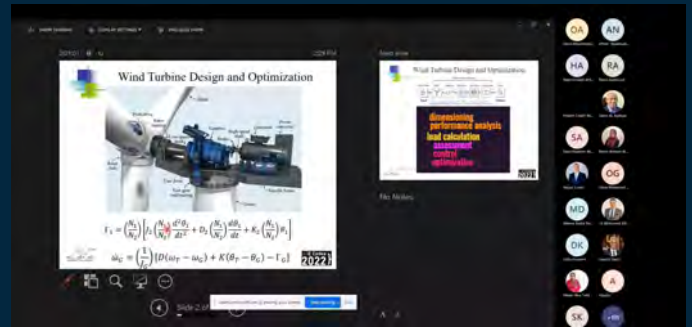
First Social for CCI

The first social event for this academic year was an “Astronomical Night” at the Sharjah Academy for Astronomy, on (Wednesday, October 12, 2022) at 7:30 PM. Many faculty members attended the event with their family members. The first part was informative session followed by a small contest by Mr. Marwan Shwaiki about the solar systems and stars. The second part was a tour inside the academy. All attendees enjoyed some snacks and drinks with some chats at the end.



UAE Codes Day

In order to highlight the importance of programming in its various specialties and in conjunction with the state celebrations of the Programming Day under the slogan "Emirates Programming", the College of computing and Information in cooperation with the College of Business Management, College of Engineering, and College of Science at the University organized the annual programmer's Day, in the presence of and a number of College members and students of the university participated.



Seminars

The College organized a seminar titled “Designing Distributed Highly Dynamic Multidimensional Data-Intensive Applications”, by faculty member [Dr. Isam Al Jawarneh](#) from the Department of Computer Science in October 2022. In this seminar event, Dr. Isam Al Jawarneh discussed various fronts at which distributing computing excels and is adept in extracting insightful knowledge from massive amounts of fast-arriving data streams in highly dynamic smart city scenarios.

The seminar is a great jumping-off point for the dissemination of the big data culture and its importance in improving various aspects of urban planning to the benefit of the broader community. It capitalizes on the current strengths in distributed systems for managing big data and encourages the dissemination of big data and the local ownership of the data market.



The College organized a seminar titled “Can Artificial Intelligence Help Achieve Sustainability?” by faculty member [Dr.Saddaf Rubab](#) from the department of Computer Engineering . In this seminar, Dr. Rubab presented how AI can help us achieve sustainability. She highlighted that AI holds great promise and responsible use of AI can lead to benefits. She added that addressing uncertainty and vulnerabilities is the first step in ensuring that the benefits of AI developments are long-term. Only through recognizing these flaws will we be able to design the next wave of AI systems that are more sustainable. Dr. Rubab also presented her efforts to achieve the WHO - 12 Global Road Safety Performance Targets. Her work is mainly addressing road safety and drivers' alertness. The talk provided future directions and suggestions to make use of AI for achieving the overall road safety targets defined under SDGs.



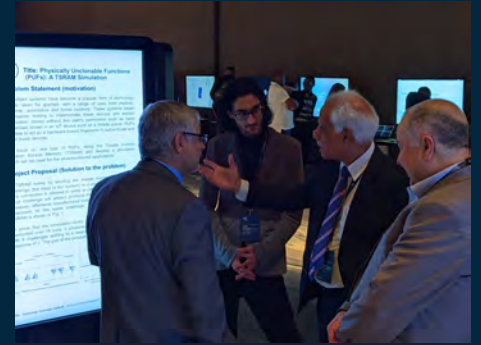
The College organized a seminar, titled “AI and Big Data for Cyber Security”, by faculty member [Prof. Fatih Kurugollu](#) from the Department of Computer Science in November 2022.

In this talk, we discussed how AI/Big Data and Cyber Security have converged together to tackle complex, sophisticated, and contemporary security threats and present novel cyber security architectures and applications based on AI and Big Data. Protecting our critical infrastructures, networks, devices, programs, and data from cyberattacks is of paramount importance for government and business organizations. Although cyber security officers and analysts try to fortify their cyber defenses against security threats using contemporary tools, the current defense strategies are prone to fail in tackling new security threats as hackers and attackers have been adopting and deploying more sophisticated attack vectors to increase the efficiency of their attacks. Many aspects of cyber security strategies involve the analysis of data generated by the network, human behavior, and malware.



Researchers Participation in SSRC 2022

Researchers from College of Computing & Informatics have participated in 2nd Annual SSRC Research Partners Summit in Abu Dhabi at Yas Hilton Hotel during 6-12th November 2022. They presented topics on “Physically Unclonable Functions (PUFs): Types and Threats”, “Advanced Persistent Threats (APT) Critical Analysis & Detection using AI” and “An Automated Smartphone Identification System for Forensic Investigation”.



NXTDXB Graduate Program by DESC

Fruitful meeting to discuss NXTDXB graduate program being launched by Dubai Electronic Security Center (DESC).



Huawei Seminar to Software Engineering Class

Huawei delivered a seminar to software engineering students about the software industry market, recent software trends, skills of future software engineers. They also offered them several opportunities such as internships onsite, competitions, useful recourses, courses & certifications, ... etc.



Information System (IS) Department Academic Advising Workshop

The Student Success Committee at the Information Systems Department held a student advising event for its new students 2022-2023 to promote the awareness of academic advising and mentoring as an essential part of the educational process. The event was held on 9 November 2022 in Ibn Al-Na-fees hall (W8-Th007) from 12:30 to 2:00 pm.

The Head of the IS Department, Dr. Mohamed Nour, welcomed the students and informed them about the different initiatives available which can help students to gain knowledge of the market and open their minds to future job opportunities.

Dr. Amel Al Ali then gave a brief presentation about the importance of advising in helping students to manage their study plan successfully and to avoid being under probation. She also explained to the students their study plan and pointed out the main issues which students should pay attention to when planning their schedule. She informed the students that they will all receive via email a soft-copy of the IS advising brochure which includes useful advising information to the students and they will also receive the IS study plan.

Dr. Mohamed Elhoseny then welcomed students who joined the IS Club and explained the main activities that the Club is planning to organize including coding competition and field trips. He also encouraged new students to join the club and pointed out the importance of joining the club to the students.

Following that, a senior student and a member in the IS club, Houda Abdul Daiem, talked about her experience during her studying and how academic advising has helped her to manage her study plan successfully. Dr. Iman Akour then ended the event by organizing few games which the students participated in and the winners were given small prizes.



Department of Computer Science Celebrates Palestinian Breakfast

The department of computer science organized a Palestinian Breakfast and many faculty members attended this event.



College's Social Event Celebrating the 25th UOS Anniversary

The College of Computing & Informatics organized the second social event Celebrating the 25th UOS Anniversary. The event includes sports competitions, many games, and food stalls.



The College of Computing and Informatics Participated in the 51st National Day Celebrations on the Men's and Women's Campus at the University of Sharjah

The ceremony included national content and landmarks in the UAE using a virtual reality and robot technologies on November 22nd. Moments of celebration were captured using a drone. In addition to the participation of college students in national cultural games and eating traditional Emirati food.



Dr.Iman participated at the National Day Table Tennis Tournament at the Women Sport Complex and won a medal



Successful Stories

Mohammed bin Rashid Al Maktoum Global Aviation Award

Our team from the College of Computing and Informatics, is one of the **two top winning** teams in the research and development category of the Mohammed bin Rashid Al Maktoum Global Aviation Award for the year 2022.



International Government Communication Forum

UOS team from College of Computing and Informatics got the **third place** in the International Government Communication Forum. Congratulations to **Anas Khaled, Seba Mohammad and Yaser Haitham**. The competition was held at Sharjah Expo Center, where 9 universities from all across the country competed to present "The Best University Initiative to Qualify Future Employees in Public Communication."

Third Forum for Women in Research

Our alumni [Amany Abu Safia](#) (PhD student in Sydney University and recipient of International Zonta Award for Women in Technology) has participated in the panel for 3rd women in research forum in August. The panel discusses research opportunities for women.

A winning award for our master student in the forum, the researcher [Mariam Althabahi](#). The project title “An Emergency Service Facilities Site Selection: A Clustering-based Technique”, University of Sharjah/Dubai Police, UAE. The student Grant for Excellence in Research/Community Impact.



UAE Codes Day

The winners of the general contest, 83 students submitted their solutions are:

- ① [Karam Ali Al Shouraa](#)
- ② [Tala Moh'd Thamer Raji Mustafa](#)
- ③ [Aseel Ahmed Mohamed Eljack](#)

The winners of the IT English contest, 373 students from 651 students submitted their solutions are:

- ① [Said Husam Said Elbeiouk](#) - AENG
- ② [Mohamad Mazen Farhat](#) - MENG
- ③ [Bara Mahdi Khaleel Masoud](#) – EENG

The winners of the Programming for Engineers, 48 students from 69 students submitted their solutions contest are:

- ① [Ibtihal Mohamed Mkoubi](#) - AENG
- ② [Omar Zeyad Altarawneh](#) - IEMG
- ③ [Ahmad Hassan Shahid](#) – CENG

The winners of the Programming I contest, 84 students from 254 students submitted their solutions:

- ❶ Abdulrahman Ahmad Nutfaji – EENG
- ❷ Mohamad Bassem Kassem - COMS
- ❸ Yousuf Abdulla Nasser Rashed Lootah – EENG



The Gulf Programming Contest 1st place

The three students: [Abdulrahman Eltahir](#), [Kamel Samara](#), and [Yaser Alesh](#), under the supervision of [Prof Saad Harous](#), [Dr. Abdullah Hussein](#) and [Ms. Sarah Darwish](#), participated in the 10th Gulf Programming Contest that was held at Sultan Qaboos University, Oman, November 1-2, 2022. There were 49 teams participating from different universities in the GCC. The contestants were given 11 problems to solve in 5 hours. The University of Sharjah team was able to solve 10 problems, and took the first place. The team from KFUPM, who took the second place, solved eight problems. Sultan Qaboos University's team took the third place; they solved seven problems.

Students' Prize in IEEE UAE Day 2022

IEEE UAE Student Day is as an annual event organized by IEEE (Institute of Electrical and Electronics Engineers) UAE Section for all engineering students in the country. The main objectives of this day are to enhance the culture of competition among engineering students in the different universities among UAE, to recognize outstanding achievements of IEEE student members, to exchange experience between UAE IEEE students, to enhance leadership qualities of IEEE students, and to introduce the IEEE to the public. The 2022 IEEE Student Day was organized by the Higher Colleges of Technology – Sharjah campus, which a wide range of student competitions in the categories of Senior Design Projects, Engineering Design Projects and Community Service. The following group of Computer Engineering students from the College of Computing and Informatics participated in the Senior Design Projects Competition (Communication and Electronics category), and won the first prize among all participants from UAE Universities:

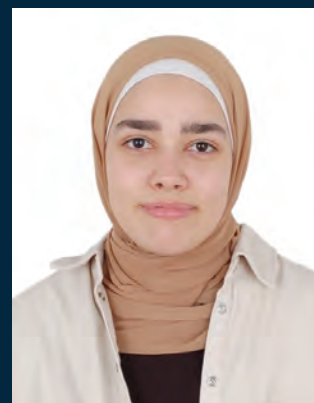
- Mariame Yasser Elsalthy .
- Nour Al Huda Wael El Chihabi .
- Shaikha Mohamed Alzaabi .

The Supervisor: Prof. Mohamed Saad

The Project Title: IoT Enabled Emergency Response System



Mariame Yasser Elsalthy



Nour Al Huda Wael El Chihabi

Research Informing Teaching

Omar M. Gouda received the Computer Engineering degree in 2019 from the University of Sharjah (UOS). Since 2020, I have joined the Department of Computing & Informatics as a research assistant while pursuing his master's degree in computer engineering. I have been the leader in several research projects in several fields. Some of my latest projects include Reporting of Safety Incidents (ROSI) Dashboard with General Civil Aviation Authority (GCAA), IoT Testbed with Dubai Electronic Security Center (DESC), and Face Registration System with Expo Sharjah. I currently working as an Application Specialist in the college of computing and informatics at UOS. His research interests are in the areas of Internet of things (IoT), IoT security, Wireless Sensor Networks (WSNs), deepfakes, image processing, image forensics, machine learning and deep learning.



Omar Mohamed Gouda
MSc Computer Engineering Student



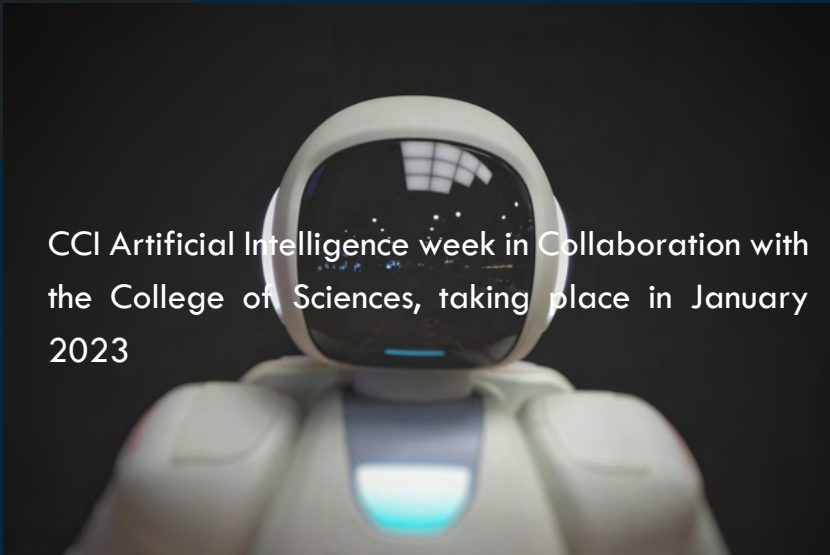
Mariam Ahmad Orabi
MSc Computer Science Student

I studied Mathematics out of passion, but I fell in love with programming when I was studying the required programming courses in the University of Sharjah. This is how the journey started, and now I'm about to finish my master's degree in Computer Science. I'm a research assistant in the Big Data Mining and Multimedia research group, where there is a variety of topics that are researched. My research interests are in everything related to data; future's currency. In research, we explore today's problems and build solutions to make the future a better place to live in.

Future Events



CCI Cyber Security week and the Symposium on Cyber security and e-commerce taking place in March 2023 in collaboration with the College of Law, College of Business Administration, College of Art, Humanities and Social Sciences, and the College of Sharia and Islamic Studies.



CCI Artificial Intelligence week in Collaboration with the College of Sciences, taking place in January 2023

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