

One Week Faculty Development Program/ Workshop

On

Recent Trends in Security: IoT, Blockchain, and Cyber Security

(RTS-2022)

(Offline/ Online mode)

19th to 23rd September 2022

Department of Computer Science and IT
Central University of Jammu



Organizing Committee

Prof. Sanjeev Jain

Vice Chancellor

Central University of Jammu

Chief Patron

Prof. Devanand Padha

Dean, School of Basic and Applied Sciences

Principal Patron

Dr. Yashwant Singh

Head, Department of Computer Science & IT

Patron

Dr. Bhavna Arora

Assistant Professor,

Department of Computer Science & IT

Convener/Coordinator

Objectives of the FDP

- To explore recent trends in cyber attacks and defense against cyber risks with a practical approach
- To gain insights of cyber physical system security and IoT security with hands-on experience on security assessment tools.
- To understand the web security, web attacks and its countermeasures using various tools.
- To provide conceptual understanding of block chain technology using various development tools and frameworks.

Registration Details

Limited seats available on first-come-first-serve basis. Interested candidates may register through the following link.

<https://forms.gle/osqnSr4mv1xxw3M96>

Registration Fees

INR Rs. 500/- (Five hundred only)

Screenshot of the payment may please be uploaded in form during registration.

Registration opens on **September 8, 2022** and closes on **September 18, 2022**

Bank Account Details

Account Holder Name:

HoD Computer Sciences & IT, Central university Jammu

Account No.: 0902040500000034

IFSC: JAKAORAHYAA

For registration related queries, please contact

E-mail: bhavna.csit@cuammu.ac.in

Mob: 7006117944

Venue

Department of Computer Science & IT, Central University of Jammu, Bagla





(Rahya-Suchani) Distt. Samba, J&K-181143



Location

<https://goo.gl/maps/ngCLKJF2F7PD4SBC7>

Course Contents

Topics Overview	Resource Person
19th September	
<p>Day 1: Cyber Attacks: Recent trends in cyber-attacks and their prevention. How to protect against cyber threats. Exploring Solutions for a secure digital world. Hands-on training</p>	 <p>Puneet Kumar Kaushal Sr. Security Systems Engineer EPAM Systems</p>
20th September	
<p>Day 2: IoT/CPS Fundamentals: Components, architectures, applications, protocols, security attacks, security methods, and past attacks IoT Hands-on Experience Security Assessment Tools</p>	 <p>Dr. Yashwant Singh Head, Department of Computer Science & IT, Central University of Jammu</p>
21st September	
<p>Day 3: Web Attacks and Countermeasures: Authentication and Authorization Principles, Cookie Stealing Attacks, Cross Site Scripting, Cross Site Request Forgery, Clickjacking, SSRF, Security Policies and Countermeasures. Hands-on training: Burp Suite and Bwapp</p>	 <p>Dr. Gaurav Varshney Assistant Professor, Computer Science & Engineering, IIT Jammu</p>
22nd and 23rd September	
<p>Day 4: Introduction to Block Chain: Consensus protocols and their requirement to build any smart application Hands-on Training</p> <p>Day 5: Discussion on Blockchain development Tools and Frameworks with two use cases (A Use Case to demonstrate how to secure EHR in Healthcare 4.0 using Blockchain and A Use Case on Cheque clearance system through blockchain) Hands-on Training</p>	 <p>Dr. Sudeep Tanwar Professor, Department of Computer Science & Engineering, Institute of Technology, Nirma University</p>



About the Department

The Department of Computer Science & Information Technology under the aegis of the School of Basic & Applied Sciences was established in the year 2012. The Department is well equipped with state-of-the-art laboratories of all major domains of Computer Science and Information Technology with excellent internet, servers, hardware and software support like Video-conferencing etc. Amenities like gymnasium, TT, Bus etc. are also available.

Our Alumni are pursuing higher studies in most reputed Universities and Institutes. The Department is equally active in research with many quality publications each year in IEEE, ScienceDirect, ACM, Springer, Wiley etc. Different scholarships/fellowships are also available for the deserving students of the Central University of Jammu.

Vision of the Department

To become a leader in providing quality education in computer science by inculcating international standard technical skills along with core ethical values among students and prepare them to be outstanding computer technocrats and nation builders.

Mission of the Department

M1. To impart education to students through quality teaching, hands-on training, and application-oriented projects.

M2. To develop analytical and problem-solving skills using the latest technologies and techniques to help them to compete in the IT industry.

M3. To encourage innovation and research to bridge the digital divide and contribute to the growth and development of the society and country at large.

Programmes of the Department

- B.Tech. in Computer Science Engineering
- B.Tech. in Computer Science Engineering (Cyber Security)
- B.Tech in Electronics and Communication Engineering
- B.Tech in Electronics and Communication Engineering (Avionics) under the mentorship of Indian Institute of Space Science and Technology (IIST) – Indian Space Research Organization (ISRO)
- M.Tech. in Computer Science Technology
- Ph.D. in Computer Science & IT

Faculty Members of CSIT, CU Jammu

S.No	Faculty Name	Designation	Research Area
1	Prof. Devanand	Professor and Dean	Simulation Modelling
2	Dr. Yashwant Singh	Associate Professor and HoD	IoT, Cyber Security
3	Dr. Bhavna Arora	Assistant Professor	Cyber Security, NLP
4	Dr. Arvind Selwal	Assistant Professor	Pattern Recognition
5	Dr. Neerendra Kumar	Assistant Professor	Robotics, AI
6	Dr. Deepti Malhotra	Assistant Professor	AI and NLP

Research Thrust Areas

- **Cyber-Physical System (Internet of Things)**
Vulnerability analysis of IoT and embedded devices, Functional programming applications, Reconfigurable computing, Embedded control units, Design and development of robots and sensor platforms, WSN, and IoT routing.
- **Security and Cryptography**
Information and network security, Theoretical and applied cryptography, Side-channel attacks and cryptanalysis, Privacy.
- **AI and Machine Learning**
Data-Mining, Information Retrieval, Machine Translation, Natural Language Processing, Neural networks and Deep Learning, Pattern Recognition, Reinforcement Learning, Sentiment Analysis, Speech Recognition.

Conferences and Workshops

International Conference on Recent Innovations in Computing (ICRIC-20XX) is organized annually and proceedings of the conference are published in LNEE, Springer which is indexed by Scopus and various International Databases. This is the departmental flagship program. Department regularly organizes workshops, seminars, and FDPs which are sponsored by AICTE, CDAC, etc.

MoU

MOU has been signed with IIT Jammu to collaborate in academic and research activities on the basis of mutual benefit.

Research Projects

Title of the Project	Name of the PI	Funding Agency & Grant (in Lakhs)	Year
Design and Development of Test Bed and Vulnerability Analysis Framework and for Cyber Physical Systems	Dr. Yashwant Singh	DRDO, 994.6193	2021-23
Cyber Security: Challenges Under Cyber Space Specially for Women Users	Dr. Yashwant Singh	NCW, 12.19	2020-21
Development of Text and Speech Corpora for Regional Languages	Dr. Bhavna Arora	DRDO, 77.98	2020-23
Development and Analysis of a light weight cryptography for sensor nodes and IoT	Dr. Arvind Selwal	DRDO, 41.97	2020-23
Development of Vulnerability Analysis Framework and Test Bed for IoT and Embedded Devices	Dr. Yashwant Singh	DRDO, 46.322	2019-21
Study of Cyber Crimes in the Universities of J&K State using Data Mining Techniques	Dr. Bhavna Arora	UGC, 6.0	2015-17

Research Publications of the Department

S.No	Platform	Number
1	Journal	129
2	Conference	98
3	Book Chapter	34
4	Book	07

Student Achievements

Alumni have enrolled for Ph.D. in esteemed institutes like IIT Ropar, IIT Patna, NIT Srinagar, the University of Tartu in Estonia, etc. Around 15 students have cleared competitive exams like UGC NET / JRF and GATE. Students have also been placed in companies like Infosys, TCS, HDFC, etc.

Faculty Members of the department

