



Six Week Summer Internship
on
Machine Learning and its Applications
in Cyber Security
(Blended Mode)

5th June –14th July 2023
(Including Project Work)

Organized by
Department of IT
Indira Gandhi Delhi Technical University for Women

Patron
Dr (Mrs.) Amita Dev, Hon'ble Vice Chancellor, IGDTUW

Organizing Committee
Prof. A K Mohapatra, HoD (IT), IGDTUW
Dr. Nonita Sharma, Associate Professor, Co-ordinator
Dr. Deepak Kumar Sharma, Associate Professor, Co-ordinator
Dr. Bhawna Narwal, Assistant Professor, Co-ordinator

About the Summer Internship Program

The technical sessions for Summer Internship program will be conducted from 5th June – 14th July 2023. The students will be learning the Concepts of Information Security Standard, Security Architecture, Threat Modelling, Identification, Detection and Mitigation of Security Vulnerabilities and the concepts of machine learning like Regression, Classification, Clustering etc. At the end of the technical sessions, the students will carry out the project work 3rd July – 14th July 2023.

Course Contents

Technical Sessions (5th June – 3rd July 2023)

Building Cyber Security skill set through various casestudies in:

- OWASP Top 10
 - Injection / Broken Authentication / Sensitive Data Exposure
 - XML External Entities / Broken Access Control / Security Misconfiguration
 - XSS / Insecure Deserialization / Components with known vulnerabilities / Insufficient Logging & Monitoring
- Firewall, IPS/IDS, SIEM, Server Logs
- Use cases of Log Monitoring & Analysis

Building Machine Learning skill set through various case studies in:

- **Fundamentals and Applications of Machine Learning and AI**
- **Essentials of Statistic**
- **ML Development Life Cycle**
- **Feature Engineering**
- **Exploratory Data Analysis**
- **Data Pre-processing**
- **Linear Regression**
- **Logistic Regression**
- **Decision Trees**
- **Random Forests**
- **KNN**
- **K-Means Clustering**
- **SVM**
- **Artificial Neural Network**
- **Cross-Validation**
- **Evaluation Metric**
- **Hyper parameter Tuning**

Project Work (3rd July -14th July 2023)

- **Project Work**

Objective Type Test(s) on various topics will be conducted for successful completion of the first phase of the Internship. The Project Work will be evaluated for successful completion of the Internship.

Resource Persons

Experts from premier National and International academic institutions and Industry with vast experience in the area of Information Security.

Who can Apply

Internship is open to MTech., B.Tech., MCA students having knowledge of Programming, Computer Network, and Information Security.

How to Apply

Interested candidates should fill the online registration form latest by [30.05.2023 by 05:00 pm](https://forms.gle/8rjrRqeytABWgi4X9) at the following link:

<https://forms.gle/8rjrRqeytABWgi4X9>

Registration Fee:

Rs 1299/- (for IGDTUW & DSEU students)

Rs 1999/- (for outside IGDTUW students)

Bank Details for Registration Fee Payment

Name and Address of Beneficiary : Registrar, IGDTU for WOMEN
Bank Account Number : 0900100 0018949
IFS Code : PSIB 000 1098
Name and Address of Bank : Punjab and Sind Bank, New
Delhi GGSIP University,
KashmereGate, Delhi 110006

Certificate

On successful completion of the Internship certificate shall be awarded.

Contact Us

For any Query, please write to hodit@igdtuw.ac.in

About the University

Indira Gandhi Delhi Technical University for Women (IGDTUW) is a State University of Government of Delhi. The University facilitates and promotes studies, research, technology, innovation, incubation, and extension work in emerging areas of professional education among women. The objective of the University is to foster industry relevant research and innovations and empower the women of our country through value based higher education making them employable, self-reliant, responsible citizen of the country.

About the Department

Department of IT aims to prepare students to undertake careers involving innovation and problem-solving using IT, or to undertake advanced studies for research careers in IT. The department has established its expertise in the emerging areas like Information Security, Machine Learning, Big Data Analytics, Software Development and Cryptography to name a few.