

# Cyber Square<sup>®</sup>

PROFESSIONAL

where your IT work experience starts

## CS DIPLOMA IN PYTHON WITH AI

COURSE BROCHURE

**Duration: 6 Months**

Lecture sessions: 72 Hands on  
Assignments/projects Soft Skill Sessions



**200**

Institutes



**12**

Countries



**1M**

Students

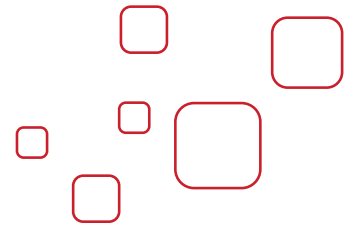
Empowering Tomorrow's High-Paying workforce  
with Internship-Driven Industry Experience



**ORAY**  
EDUCATION

<https://cybersquare.pro/>

# About Cyber Square Professional



Immerse yourself in a unique learning experience where the virtual meets the real-world. Our courses go beyond conventional training, simulating a dynamic working environment that mirrors a global software company. Interns, dispersed worldwide, collaborate seamlessly on real projects, bringing the virtual workspace to life.

This international exposure not only sharpens the technical skills but also instills the collaborative spirit needed in today's interconnected software development landscape. Soft skills sessions are also seamlessly integrated, ensuring a holistic learning experience. Get ready to thrive in a virtual company setting, acquiring invaluable experience that transcends geographical boundaries.





An overhead view of a diverse group of people sitting around a round wooden table, engaged in a collaborative meeting. They are looking at documents and a tablet. A red banner with the text 'CEO's take' is overlaid on the top left of this image.

CEO's take



**NP HARIS**

Conceptualizer & CEO

# OUR CEO'S MESSAGE

Dear Future Software Engineers,

For over 12 years, CyberSquare Professional has been a leader in technology training, dedicated to producing quality software engineers. Our experience has enabled us to create a unique learning experience that bridges the gap between academic learning and real-world industry demands.

Introducing CS Pro, our state-of-the-art virtual company environment hosted in the cloud. Here, interns from around the globe collaborate on real-world products, gaining invaluable hands-on experience.

In CyberSquare Pro, you join a project team, receive daily lectures, and work under a Product Owner (PO) and Scrum Master in a real Agile environment. You will actively contribute to product development, enhancing features based on backlogs and roadmaps.

We believe that working on actual projects in a real Agile environment is the best way to truly understand the role of a software engineer. This hands-on experience is unmatched and ensures you are well-prepared for your future job.

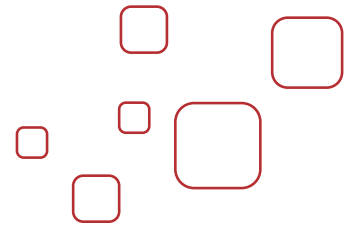
In addition to technical training, we focus on developing soft skills, human skills, and adhering to ethical standards in software development. This holistic approach ensures you are a well-rounded professional.

Join us at CyberSquare Pro and experience the most effective way to become a skilled software engineer. Let us help you build a successful career.

**NP Haris**

**“Mastery in software development comes from hands-on experience. On-the-job training turns knowledge into skill and potential into excellence.”**

# About the Course



The Cyber Square Professional's Python for AI Course offers a comprehensive and intensive journey into the world of Artificial Intelligence, built upon a strong foundation of Python programming. This course is meticulously designed to equip students with the essential theoretical knowledge and practical skills required to develop, deploy, and manage AI-powered solutions. By delving into foundational Python concepts and progressing to advanced AI frameworks and methodologies, students will be fully prepared to tackle real-world AI challenges.



As students progress, the course dives into the intricacies of AI-specific Python libraries and advanced AI concepts. It emphasizes the importance of data manipulation, model building, and evaluation, covering key libraries such as NumPy, Pandas, Matplotlib, Seaborn, Scikit-learn, TensorFlow/Keras, and PyTorch. The curriculum extends to Natural Language Processing (NLP) with NLTK, spaCy, and Hugging Face, as well as Computer Vision with OpenCV, enabling students to understand and implement a wide range of AI applications.








In the later stages of the Cyber Square Professional's Python for AI course, the focus shifts to advanced AI architectures like Deep Learning (RNNs, LSTMs, GANs) and Reinforcement Learning, along with practical project development. Students gain hands-on experience in building AI projects such as sentiment analysis, image classification, chatbots, and recommendation systems. The course also covers the deployment of AI models using tools like Flask, FastAPI, Docker, and Kubernetes, preparing students for the complexities of integrating AI into real-world applications. Optional topics like Big Data with PySpark, Cloud AI services (Google, AWS, Azure), and AI ethics are also introduced to provide a holistic understanding of the AI landscape.

# Who should take this course?

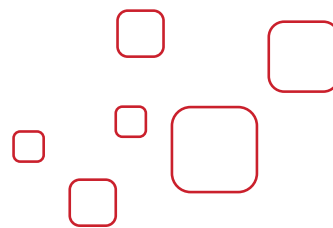


## Python for AI for whom?

The Python for AI course is ideal for a wide range of individuals, from complete beginners to experienced professionals looking to upskill in the rapidly evolving field of Artificial Intelligence. It's perfectly suited for those with a keen interest in programming, data analysis, and building intelligent systems, whether they aspire to become AI engineers, data scientists, machine learning specialists or simply want to leverage AI for personal or professional projects. The course's hands-on approach and comprehensive curriculum, covering everything from Python fundamentals to advanced deep learning and deployment, make it fulfilling for anyone passionate about transforming data into actionable insights and creating innovative AI-powered solutions.

-  Beginners with no prior programming experience
-  Students looking to enhance their programming and data science skills
-  Professionals aiming to transition into a career in AI, Machine Learning, or Data Science
-  Data enthusiasts eager to learn about data manipulation and visualization
-  Anyone interested in understanding the basics and advanced concepts of AI and machine learning
-  Individuals who want to automate tasks or create AI-powered tools
-  Those looking to gain an edge in placements or enhance their research capabilities

# Student Intern Status – International Point System



Embark on a structured learning journey with our **International Point System**, an essential aspect of our internship placement process.

By integrating activities such as LinkedIn profile creation, StackOverflow participation, and project development, this system encourages a comprehensive development approach, preparing students for successful careers.

This system not only establishes a standardized evaluation process but also motivates students to excel in their internship, enhancing their preparedness for future professional endeavors. Embrace the International Point System and set yourself on the path to a rewarding placement experience.

## Point Accumulation

Students earn points by successfully fulfilling the required tasks and objectives.



## Mandatory Requirements

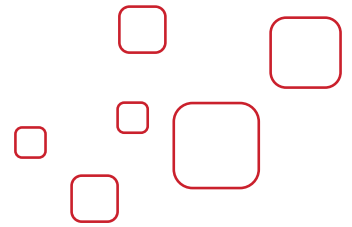
To be eligible for the placement process, students must complete a set of mandatory items outlined in our International Point System.

## Minimum Required Points

Meeting the minimum required points is essential for students to qualify for the placement process. This ensures a fair and competitive environment.



# Course content



## Sprint 1

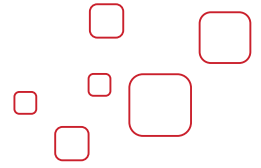
### **Python Basics for AI**

- Installing Python, VS Code, Jupyter Notebook
- Syntax, variables, data types
- Input/output
- Conditionals (if, else, elif)
- Loops (for, while, break, continue, pass)
- Functions, arguments, return values
- Standard libraries (math, random)
- Custom modules
- Lists, tuples, sets, dictionaries
- List comprehensions
- Stack, queue, deque
- File I/O
- Working with CSV & JSON

## Sprint 2

### **Advanced Python for AI**

- Classes, objects, inheritance, polymorphism
- - Encapsulation, abstraction, magic methods
- - Exception handling (try, except, finally)
- - Custom exceptions
- - Lambda, map, filter, reduce
- - Generator & list comprehensions
- - NumPy: arrays, linear algebra, reshaping
- - Pandas: DataFrames, cleaning, missing data, groupby
- - Matplotlib & Seaborn visualizations



### **Sprint 3**

#### **AI-Specific Python Libraries**

- Scikit-Learn: preprocessing, models, evaluation
- TensorFlow/Keras: basic NN, training/testing
- PyTorch: tensors, building/training models
- NLP: NLTK, spaCy, Hugging Face, sentiment analysis
- Computer Vision: OpenCV, CNNs, transfer learning

### **Sprint 4**

#### **Advanced AI Concepts**

- Deep Learning: RNNs, LSTMs, autoencoders, GANs
- Reinforcement Learning: Q-learning, policy gradients
- AI Frameworks: Hugging Face, PyCaret
- Data Engineering: cleaning, feature engineering, and imbalanced data

### **Sprint 5**

#### **Project Development**

- Projects: sentiment analysis, image classification, chatbot, time series, recommendation systems
- REST APIs: Flask, FastAPI
- Deployment: Docker, Kubernetes
- Integration: web & mobile

### **Sprint 6**

- Big Data: PySpark basics
- Cloud AI: Google, AWS, Azure AI services
- AI Ethics: bias, fairness, interpretability



# CERTIFICATE



## Classroom-Level Immersion: Delivered Digitally

- Any Where, Anytime access
- Online Self learning
- Courses designed by alumni of IIT, NIT & IIM.
- CS Certificate Internship Certificate & UK Certificate
- CS Talent Show



**Cyber Square**  
PROFESSIONAL  
ARTIFICIAL INTELLIGENCE | PYTHON | DATA SCIENCE | FULL STACK

# Our Branch All Around World



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**Cyber Square**<sup>®</sup>  
PROFESSIONAL   
where your IT work experience starts

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## UAE

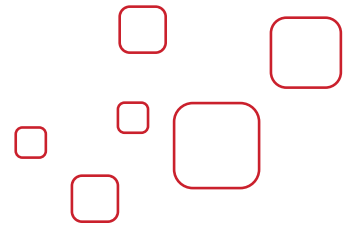
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# More Information About us?



## Contact Us!

Cyber Square Pro is a learning platform and resource hub for professionals looking to learn cutting-edge digital skills, whether they're coding novices or programming pros.

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Park, Thondayad Bye-Pass,  
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**Thank You!**

