



Certified Artificial Intelligence  
Professional  
VS-1438

**Vskills Certifications**

Vskills Brochure



## Certified Artificial Intelligence Professional

### Certification Code VS-1438

Artificial intelligence (AI) has been one of the core research techniques in computer science since the beginning of the field, and in recent years an emergence in research and computational power has made AI development more accessible for developers.

In this certification course, you will learn the foundation of Artificial Intelligence (AI) and the techniques used to make AI solve problems.

### Why should one take this certification?

This Course is intended for web developers, programmers and graduates wanting to excel in their chosen areas. It is also well suited for those who are already working and would like to take certification for further career progression.

Earning Vskills Artificial Intelligence Certification can help candidate differentiate in today's competitive job market, broaden their employment opportunities by displaying their advanced skills, and result in higher earning potential.

### Who will benefit from taking this certification?

Job seekers looking to find employment in IT or software development departments of various companies and students who want to learn Artificial Intelligence.

### Test Details

- **Duration:** 60 minutes
- **No. of questions:** 50
- **Maximum marks:** 50, Passing marks: 25 (50%)

There is no negative marking in this module.

### Fee Structure

Rs. 5,999/- (Excludes taxes) \*

\*Fees may change without prior notice, please refer <http://www.vskills.in> for updated fees

### Companies that hire Vskills Certified Artificial Intelligence Professional

Artificial Intelligence professionals are in great demand. It is the most popular core research techniques in computer science. Companies like Accenture, KPMG, Amazon, IBM, Ericsson and Wipro etc. specializing in Data Science are constantly looking for certified professionals in Artificial Intelligence.

# Table of Contents

## **1. Building Your Own Prediction Models**

- 1.1 Classification Overview and Evaluation Techniques
- 1.2 Decision Trees
- 1.3 Prediction with Decision Trees and Student Performance Data
- 1.4 Random Forests
- 1.5 Predicting Bird Species with Random Forests

## **2. Applications for Comment Classification**

- 2.1 The Problem of Text Classification
- 2.2 Detecting YouTube Comment Spam with Bag of Words and Random Forests
- 2.3 Word2Vec Models
- 2.4 Detecting Positive/Negative Sentiment in User Reviews

## **3. Deep Learning**

- 3.1 Neural Networks
- 3.2 Identifying the Genre of a Song Using Audio Analysis and Neural Networks
- 3.3 Revising the Spam Detector to Use Neural Networks
- 3.4 Overview of Deep Learning and Convolutional Neural Networks
- 3.5 Identifying Handwritten Mathematical Symbols with Convolutional Neural Networks
- 3.6 Revising the Bird Species Identifier to Use Images

## **4. Machine Learning for Spam Detection**

- 4.1 Solving problems with computers
- 4.2 Machine Learning: Why should you jump on the bandwagon?
- 4.3 Plunging In - Machine Learning Approaches to Spam Detection
- 4.4 Spam Detection with Machine Learning Continued
- 4.5 Get the Lay of the Land: Types of Machine Learning Problems

## **5. Solving Classification Problems**

- 5.1 Random Variables
- 5.2 Bayes Theorem
- 5.3 Naive Bayes Classifier
- 5.4 Naive Bayes Classifier: An example
- 5.5 K-Nearest Neighbours
- 5.6 K-Nearest Neighbours: A few wrinkles
- 5.7 Support Vector Machines Introduced
- 5.8 Support Vector Machines: Maximum Margin Hyperplane and Kernel Trick
- 5.9 Artificial Neural Networks: Perceptrons Introduced

## **6. Clustering**

- 6.1 Clustering: Introduction
- 6.2 Clustering: K-Means and DBSCAN

## **7. Association Detection**

- 7.1 Association Rules Learning

## **8. Dimensionality Reduction**

- 8.1 Dimensionality Reduction
- 8.2 Principal Component Analysis

## **9. Regression and supervised learning**

- 9.1 Regression Introduced: Linear and Logistic Regression
- 9.2 Bias Variance Trade-off

## **10. Natural Language Processing and Python**

- 10.1 Applying ML to Natural Language Processing
- 10.2 Installing Python - Anaconda and Pip
- 10.3 Natural Language Processing with NLTK
- 10.4 Natural Language Processing with NLTK - See it in action
- 10.5 Web Scraping with BeautifulSoup
- 10.6 A Serious NLP Application: Text Auto Summarization using Python
- 10.7 Autosummarize News Articles
- 10.8 News Article Classification using K-Nearest Neighbors
- 10.9 News Article Classification using Naive Bayes Classifier
- 10.10 Scraping News Websites
- 10.11 Feature Extraction with NLTK
- 10.12 Classification with KNN
- 10.13 Classification with Naive Bayes
- 10.14 Document Distance using TF-IDF
- 10.15 News Article Clustering with K-Means and TF-IDF
- 10.16 Clustering with K Means

## **11. Sentiment Analysis**

- 11.1 Solve Sentiment Analysis using Machine Learning
- 11.2 Sentiment Analysis - What's all the fuss about?
- 11.3 ML Solutions for Sentiment Analysis - the devil is in the details
- 11.4 Sentiment Lexicons (with an introduction to WordNet and SentiWordNet)
- 11.5 Regular Expressions
- 11.6 Regular Expressions in Python
- 11.7 Put it to work: Twitter Sentiment Analysis
- 11.8 Twitter Sentiment Analysis

## **12. Decision Trees**

- 12.1 Using Tree Based Models for Classification
- 12.2 Planting the seed - What are Decision Trees?
- 12.3 Growing the Tree - Decision Tree Learning
- 12.4 Branching out - Information Gain
- 12.5 Decision Tree Algorithms
- 12.6 Decision Trees predict Survival (Kaggle)

## **13. Overfitting**

- 13.1 Overfitting - the bane of Machine Learning
- 13.2 Overfitting Continued
- 13.3 Cross Validation
- 13.4 Simplicity is a virtue – Regularization
- 13.5 The Wisdom of Crowds - Ensemble Learning
- 13.6 Ensemble Learning continued - Bagging, Boosting and Stacking

## **14. Random Forests**

- 14.1 Random Forests - Much more than trees
- 14.2 Back on the Titanic - Cross Validation and Random Forests

## **15. Recommendation Systems**

- 15.1 Solving Recommendation Problems
- 15.2 What do Amazon and Netflix have in common?
- 15.3 Recommendation Engines - A look inside
- 15.4 What are you made of? - Content-Based Filtering
- 15.5 With a little help from friends - Collaborative Filtering
- 15.6 A Neighbourhood Model for Collaborative Filtering
- 15.7 Top Picks for You! - Recommendations with Neighbourhood Models
- 15.8 Discover the Underlying Truth - Latent Factor Collaborative Filtering
- 15.9 Latent Factor Collaborative Filtering contd.
- 15.10 Gray Sheep and Shillings - Challenges with Collaborative Filtering
- 15.11 The Apriori Algorithm for Association Rules

## **16. Recommendation Systems in Python**

- 16.1 Numpy in Python
- 16.2 Numpy and Scipy in Python
- 16.3 Movielens and Pandas
- 16.4 Data Analysis with Pandas
- 16.5 Movie Recommendation with Nearest Neighbour CF
- 16.6 Top Movie Picks (Nearest Neighbour CF)
- 16.7 Movie Recommendations with Matrix Factorization
- 16.8 Association Rules with the Apriori Algorithm

**17. Deep Learning and Computer Vision**

17.1 Computer Vision - An Introduction

17.2 Perceptron Revisited

17.3 Deep Learning Networks Introduced

17.4 Handwritten Digit Recognition

## Certifications

- ▶ **Accounting, Banking & Finance**
  - Certified GST Professional
  - Certified AML-KYC Compliance Officer
  - Certified Business Accountant
  - Certified BASEL III Professional
  - Certified GAAP Accounting Standards Professional
  - Certified Treasury Markets Professional
- ▶ **Big Data**
  - Certified Hadoop and Mapreduce Professional
- ▶ **Cloud Computing**
  - Certified Cloud Computing Professional
- ▶ **Design**
  - Certified Interior Designer
- ▶ **Digital Media**
  - Certified Social Media Marketing Professional
  - Certified Inbound Marketing Professional
  - Certified Digital Marketing Professional
- ▶ **Foreign Trade**
  - Certified Export Import (Foreign Trade) Professional
- ▶ **Health, Nutrition and Well Being**
  - Certified Fitness Instructor
- ▶ **Hospitality**
  - Certified Restaurant Team Member (Hospitality)
- ▶ **Human Resources**
  - Certified HR Compensation Manager
  - Certified HR Staffing Manager
  - Certified Human Resources Manager
  - Certified Performance Appraisal Manager
- ▶ **Office Skills**
  - Certified Data Entry Operator
  - Certified Office Administrator
- ▶ **Project Management**
  - Certified Master in Project Management
  - Certified Scrum Specialist
- ▶ **Real Estate**
  - Certified Real Estate Consultant
- ▶ **Marketing**
  - Certified Marketing Manager
- ▶ **Quality**
  - Certified Six Sigma Green Belt Professional
  - Certified Six Sigma Black Belt Professional
  - Certified TQM Professional
- ▶ **Logistics & Supply Chain Management**
  - Certified International Logistics Professional
  - Certified Logistics & SCM Professional
  - Certified Supply Chain Management Professional
- ▶ **Legal**
  - Certified IPR & Legal Manager
  - Certified Labour Law Analyst
  - Certified Business Law Analyst
  - Certified Corporate Law Analyst
- ▶ **Information Technology**
  - Certified Angular JS Professional
  - Certified Basic Network Support Professional
  - Certified Business Intelligence Professional
  - Certified Core Java Developer
  - Certified E-commerce Professional
  - Certified IT Support Professional
  - Certified PHP Professional
  - Certified Selenium Professional
- ▶ **Mobile Application Development**
  - Certified Android Apps Developer
  - Certified iPhone Apps Developer
- ▶ **Security**
  - Certified Ethical Hacking and Security Professional
  - Certified Network Security Professional
- ▶ **Management**
  - Certified Corporate Governance Professional
  - Certified Corporate Social Responsibility Professional
  - Certified Leadership Skills Professional
- ▶ **Life Skills**
  - Certified Business Communication Specialist
  - Certified Public Relations Officer
- ▶ **Media**
  - Certified Advertising Manager
  - Certified Advertising Sales Professional
- ▶ **Sales, BPO**
  - Certified Sales Manager
  - Certified Telesales Executive

& many more job related certifications

Contact us at:  
V-Skills  
011-473 44 723 or [info@vskills.in](mailto:info@vskills.in)  
[www.vskills.in](http://www.vskills.in)