AI Consulting and IT Law & Compliance

KI in Unternehmen / Business-KI · Anbieter: IU Akademie IU Internationale Hochschule

FÖRDERUNG & KOSTEN

Kurspreis: auf Anfrage

Förderfähig über: Bildungsgutschein

AZAV-zertifizierter Bildungsträger — Förderung durch die Agentur für Arbeit möglich

Kursdaten auf einen Blick

Durchführung	Online
Lernformat	Self-Paced
Dauer	6 Monate in Vollzeit oder 12 Monate in Teilzeit
Unterrichtssprache	Deutsch, Englisch
Kursstart	Startet alle 14 Tage
Vorkenntnisse	Keine Vorerfahrung
Abschluss	Zeugnis auf Hochschulniveau
Inklusive	Berufscoaching, Notebook / Tablet (geliehen)

Bildungsträger & Kontakt

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Kurs online ansehen

01 Kursbeschreibung

In einer zunehmend digitalisierten Welt ist Dein Wissen gefragter denn je. Du hast bereits erkannt, dass Künstliche Intelligenz (KI) und IT-Recht sowie Compliance eine tragende Rolle in der zukünftigen Geschäftswelt spielen werden. Viele Unternehmen sind sich dessen ebenfalls bewusst. Um diesen Anforderungen gerecht zu werden und die richtigen Schritte in einer sich schnell entwickelnden technologischen Landschaft zu setzen, brauchen sie Dich. Nach Deiner Online-Weiterbildung AI Consulting and IT Law & Compliance setzt Du Künstliche Intelligenz erfolgreich rechtskonform in Unternehmen ein und machst damit Compliance sowie IT-Recht zukunftsfähig. Du lernst in Deiner Online-Weiterbildung AI Consulting and IT Law & Compliance die Python-Programmiersprache kennen, die in vielen Bereichen von der Webentwicklung bis zur wissenschaftlichen Datenverarbeitung eingesetzt wird. Im Modul Machine Learning erhältst Du einen tiefen Einblick in die verschiedenen Lernansätze und Methoden, die Maschinen befähigen, Muster in Daten zu erkennen und daraus zu lernen. Im Seminar zu aktuellen Themen in der KI setzt Du Dich kritisch mit den neuesten Entwicklungen in diesem Bereich auseinander. Ergänzend tauchst Du im Modul Deep Learning in die Welt der neuronalen Netzwerke ein und lernst, wie diese trainiert werden und welche alternativen Trainingsmethoden es gibt. Im Bereich IT-Recht & Compliance erhältst Du einen umfassenden Überblick über die Herausforderungen und Motivationen der IT-Governance, das COBIT-Framework und den IT-Grundschutz nach BSI. Abschließend befasst Du Dich mit Themen wie E-Business und E-Commerce, geistigem Eigentum, Datenschutz und Datensicherheit sowie Informationssicherheit und Computerkriminalität.

02 Lehrplan & Module

1. Programming with Python

Python is one of the most versatile and widely used scripting languages. Its clean and uncluttered syntax as well as its straightforward design greatly contribute to this success and make it an ideal language for programming education. Its application ranges from web development to scientific computing. Especially in the fields of data science and artificial intelligence, it is the most common programming language supported by all major data-handling and analytical frameworks. This course provides a thorough introduction to the language and its main features, as well as insights into rationale and application within important libraries related to data science and artificial intelligence and important adjacent concepts such as environments, testing, and version control.
Kursinhalte
Introduction to Python Data Structures
Functions
Flow Control
Input / Output
Modules and Packages
Classes and Inheritance Scopes and Namespaces
Classes and Inheritance
Iterators and Generators
Python Important Libraries Standard Python Library
Scientific Calculations
Machine Learning Libraries
Data Visualization
Accessing Databases
Errors and Exceptions Syntax Errors
Handling and Raising Exceptions
User-Defined Exceptions
Working with Python Virtual Environments
Managing Packages
Unit and Integration Testing
Documenting Code
Version Control Introduction to Version Control
Version Control with GIT
Fakten zum Modul: Niveau: Master · Unterrichtssprache: English · 5 ECTS-Punkte · Modulprüfung: Hausarbeit

2. Machine Learning

Machine learning is a field of scientific study concerned with algorithmic techniques that enable machines to learn performance on a given task via the discovery of patterns or regularities in exemplary data. Consequently, its methods commonly draw upon a statistical basis in conjunction with the computational capabilities of modern computing hardware.
This course aims to acquaint the student with the main branches of machine learning and provide a thorough introduction to the most widely used approaches and methods in this field.
Kursinhalte
Introduction to Machine Learning Regression & Classification
Supervised & Unsupervised Learning
Reinforcement Learning
Clustering Introduction to clustering
K-Means
Expectation Maximization
DBScan
Hierarchical Clustering
Regression Linear & Non-linear Regression
Logistic Regression
Quantile Regression
Multivariate Regression
Lasso & Ridge Regression
Support Vector Machines Introduction to Support Vector Machines
SVM for Classification
SVM for Regression
Decision Trees Introduction to Decision Trees
Decision Trees for Classification
Decision Trees for Regression
Genetic Algorithms Introduction to Genetic Algorithms
Applications of Genetic Algorithms
Fakten zum Modul: Niveau: Master · Unterrichtssprache: English · 5 ECTS-Punkte · Modulprüfung: Examen, 90 Minuten

3. Deep Learning

Neural networks and deep learning approaches have revolutionized the fields of data science and artificial intelligence in recent years, and applications built on these techniques have reached or surpassed human performance in many specialized applications.
After a short review of the origins of neural networks and deep learning, this course will cover the most common neural network architectures and discuss in detail how neural networks are trained using dedicated data samples, avoiding common pitfalls such as overtraining.
The course includes a detailed overview of alternative methods to train neural networks and further network architectures which are relevant in a wide range of specialized application scenarios.
Kursinhalte
Introduction to Neural Network and Deep Learning The Biological Brain
Perceptron and Multi-Layer Perceptrons
Network Architectures Feed-Forward Networks
Convolutional Networks
Recurrent Networks, Memory Cells and LSTMs
Neural Network Training Weight Initialization and Transfer Function
Backpropagation and Gradient Descent
Regularization and Overtraining
Alternative Training Methods Attention
Feedback Alignment
Synthetic Gradients
Decoupled Network Interfaces
Further Network Architectures Generative Adversarial Networks
Autoencoders
Restricted Boltzmann Machines
Capsule Networks
Spiking Networks
Fakten zum Modul: Niveau: Master · Unterrichtssprache: English · 5 ECTS-Punkte · Modulprüfung: Mündliche Prüfung

4. Seminar: Current Topics in AI

The topic of artificial Intelligence (AI) has been addressed in computer science and cognitive science research since the 1950s; however, the meaning associated with the term has changed considerably over time. Having once been predominantly associated with logical calculus, reasoning, and planning, AI is now primarily interpreted in the context of deep networks of computational units. Despite these changes in approach, the important characteristic of AI continues to be the understanding and reproduction of cognitive abilities and functions by machines. This seminar strives to elucidate current research trends in AI. The students learn to independently analyze selected topics and case studies and link them with well-known concepts, as well as critically question and discuss them.
Kursinhalte
The seminar covers current topics in artificial intelligence. Each participant must write a seminar paper on a topic assigned to him/her.
Fakten zum Modul: Niveau: Master · Unterrichtssprache: English · 5 ECTS-Punkte · Modulprüfung: Forschungsbericht

5. Corporate Governance of IT, Compliance, and Law

In this course, students learn terms and frameworks related to IT governance and IT compliance. First, a short introduction and an overview of the different aspects of IT governance and IT compliance are given; then, COBIT and IT basic protection are explained as two frameworks that are used in industrial practice. In addition, this course will introduce and discuss important legal frameworks and standards related to IT law.
Kursinhalte
IT Governance: Motivation and Challenges Governance and IT Governance
Frameworks for IT Governance
Typical IT Governance, Service Management, and Security Frameworks and Standards
COBIT Framework Overview of the Elements of COBIT
Governance and Management Objectives
Use of COBIT and COBIT Design Factors
The Target Cascade of COBIT
IT Compliance Introduction to IT Compliance
Examples of National and International Guidelines: Risk Management Standards and Frameworks
IT Compliance: Typical Measures
Basic IT Protection According to BSI Overview and Structure
Approach to IT Security Governance
Usage Example of IT Security Governance
Introduction to IT Service Management What is Information Technology Service Management?
What is ITIL® V4?
What is ISO/IEC 20000-1:2018?
Other ITSM Frameworks and Standards
IT Law Overview of Relevant Laws
Protection of Intellectual Property
IT Contracts
Privacy
Fakten zum Modul: Niveau: Master · Unterrichtssprache: English · 5 ECTS-Punkte · Modulprüfung: Klausur, 90 Minuten

6. International IT Law

This course presents in depth national and international legal framework conditions of information processing for companies. After an examination of the differences between international legal systems, an introduction is given to those legal constructs which serve as a basis for the development of IT-relevant legislation. Subsequently, areas of law are discussed from the perspective of concrete application-oriented business scenarios, such as contract law, licensing and patenting.
Kursinhalte
Introduction General Concepts of Law
Areas of Law
International, Transnational and EU Law
Definition and Scope of IT Law
International, Transnational and European IT Law
Law in Cross-Border Systems
E-Business and E-Commerce General Terms and Conditions of Business
Electronic Commerce
IT Contracts
Intermediaries and Platforms
Antritrust Law and IT
Intellectual Property Basic Concepts of Intellectual Property
Copyright
Software Copyright and Software Licensing
Free and Open Licensing
Patenting of Software
Privacy and Data Protection Basic Concepts of Privacy and Data Protection
European General Data Protection Regulation (GDPR)
Implementation Approaches of the GDPR
International Data Transfer
Information Security and Computer Crime Information Security Law
Electronic Signatures and Digital Identities
Cybercrime
Online Media and Telecommunication Basics of Online Media Law
Social Media and Freedom of Expression
Fundamentals of Telecommunications Law
Internet and Domain Law
Fakten zum Modul: Niveau: Master · Unterrichtssprache: English · 5 ECTS-Punkte

03 Enthaltene Zertifikate

Trägerzertifikat: Zeugnis auf Hochschulniveau

04 Voraussetzungen

Vorkenntnisse

Niveau: Keine Vorerfahrung

Zulassungsvoraussetzung: gute Deutschkenntnisse auf B2-Niveau.

Zugangsempfehlung: Englisch auf B2 Niveau; Advanced Mathematics

Die Weiterbildung ist auf dem inhaltlichen Niveau eines Master Studiengangs. Eine Weiterbildung auf Master-Niveau ist anspruchsvoller als auf Bachelor-Niveau. Vorhandenes Grundlagenwissen im gewählten Fachbereich ist deshalb von Vorteil.

Technische Voraussetzungen

Laptop mit Internetzugang.

05 Zielgruppen & Berufsperspektiven

- Arbeitssuchende
- Fachkräfte

Mögliche Berufsbilder: KI-Compliance Manager, IT-Compliance Spezialist, KI-Spezialist

NÄCHSTER SCHRITT

Kursdetails online ansehen und Anbieter kontaktieren

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Online ansehen