**加州大学欧文分校**

**人工智能&TEFL专业学分及职业文凭证书课程**

**前言：**



加州大学欧文分校（UCI）的发展教育部(Division of Continuing Education)是世界【开放式】教育联盟的一个重要成员。加州大学欧文分校作为【开放式】教育联盟的创始成员，与其它公立大学共同为加州、美国和全世界的学生展示了【开放式】大学的高质教育，并为世界上的每一个有意愿继续深造的人提供各种职业类证书、公开课程、网上授课、及教材。

特殊“新冠疫后“时期孕育新的教学模式，在2019-2022年疫情防控期间，UCI运用其积累多年在线和线下授课的教育经验，采用混合方式，继续开展其对美国本地学生和国际学生的各项教学和国际化拓展工作。

作为加州大学里前沿教学模式和提供学生就业规划的主导院系，该部门除了本职教学工作也要负责指导新常态下的大学在线和线下的教学模式，同时也积极参与各院系国际化学生就业提高项目课程的推广和策划。

UCI 是美国Western Association of Schools and Colleges的认可会员，其提供的所有学位和证书课程均按照 UCI 学术要求，以及全加州大学学术委员会的规定开发和管理。

**学分及职业文凭证书：**

 提高学生毕业后的就业机会是全世界所有高校的职责。因应新冠疫情后的新型教学模式UCI开设了【**AI & Machine Learning】，【Financial Analysis Certificate】和【English Teacher Training，TEFL】**职业证书向全世界高校推广。该证书也是美国常见的(Post-Graduate Certificate) 专业研究生证书。课程将会利用学生的寒暑假及学期的周末，**采取在线(Online)和到UCI校园学习(On-Campus)的混合模式**贯穿学生的学习年度进行教学。

学生毕业后，既获得原校的本科学位文凭，同时也拥有一张世界【职业】认可的UCI专业研究生证书。在职场里，一份由美国顶尖大学颁发的职业类证书可以获得【用人单位】的认可，并且也可以为日后申请研究生打好前置课程的学术和实习铺垫。

 通过本课程学习，学生将会获得UCI（或同等程度）**相关学分**，**关于具体学分转换方法和数量须由学生国内大学的教务处自行决定。**

**课程时间安排：**

**入学要求**

* GPA 3.0以上；
* 语言要求：中国大学4/6级，TEFOL=71

**开学日期**

* 2023年1月30日-12月 2日\*截止日期：建议所有课程均提前至少2个月以上递交申请**。**

**AI & Machine Learning**

无论是美国还是亚洲，人工智能作为一个新兴产业，将是21世纪的大潮，不论我们是否喜欢，人工智能必然要取代众多行业。人工智能是一个横跨众多领域的一个工具。在人工智能的使用范围内，包含了众多工作机会。可以是研究，可以是教育，可以是项目工程，可以是技术开发，也可是市场管理。

随着企业纷纷上云之后，未来人工智能产品的应用场景会越来越多，相应的人才需求也会逐渐释放出来。所以从这个角度来看，普通人要想进入人工智能领域发展，未来的发展前景还是比较广阔的。从世界各地就业岗位看，未来最有前景的人工智能岗位元有三类：技术开发、产品设计、销售推广。

UCI的课程设计完全贴合现时各国企业人工智能工作职务的用人标准，课程中的技术都是企业所使用的前沿技术和框架，非常适合准备在人工智能行业大显身手，从事相关工作的人员。

由于人工智能是新型技术产业，职业证书的作用才刚开始显现，随着人工智能技术的发展，社会对人工智能证书的认可度的增长，以及人工智能证书体系的越来越完善，未来也有可能会加入到评选职称的体系当中。相信未来会有更多的人参加人工智能证书的学习。

**课程内容：（学费：$1250/课程；$4600 美元/4门课程）**

1. **Intro to Machine Learning & AI** 【学分：2.5 units (25 hours) each 】

– *January 30-February 10, 2023, M-F, Remote via Zoom*

* 1. This course introduces concepts and topics essential to Machine Learning and AI. Starting with a foundational understanding of machine learning models such as predictive analytics algorithms, logistic regression, artificial neural networks, and introductory natural language processing, students will also learn major concepts on the design, architecture, and applications of networks.  The course will focus on practical knowledge and skills through practice exercises and project work designed to teach students how to implement machine learning algorithms using real-world examples.
	2. **Prerequisites**: I&C SCI X426.64 Introduction to Python Programming AND I&C SCI X427.05 Fundamentals of Data Science or equivalent
1. **Neural Networks & Deep Learning**【学分：2.5 units (25 hours) each 】

– *February 18 – June 3, 2023, Every other Saturday，Remote via Zoom*

* 1. Neural Networks are capable of utilizing a wide range of data sets including unstructured data such as text, speech, images, audio and video. Talking products from Apple, Amazon, Microsoft, and Google all use artificial neural networks as do Tesla’s self-driving cars. Artificial neural networks are also increasingly being used in NLU (Natural Language Understanding). This course will cover foundational concepts of neural networks and deep learning. Starting with key concepts behind Machine Learning and Deep Learning, the course will explore design, architecture, and applications of neural networks for practical applications in deep learning methods including supervised and unsupervised models. Using popular toolsets including TensorFlow and Keras, students will set up and implement scalable Artificial Intelligence Systems.
	2. **Prerequisites**: I&C SCI X426.59 Intermediate Python, and I&C SCI X426.73 Intro to Machine Learning & AI
1. **Text Analytics & Natural Language Processing**【学分：2.5 units (25 hours) each 】

 – *July 17 – August 11, 2023, M-F ，UCI Campus/Remote via Zoom*

* 1. Gain fluency in both Text Analytics and Natural Language Processing (NLP) through practical exercises and real-life data sets. This course will cover foundational NLP techniques and applications of text classification, language modeling, speech recognition, caption generation, document summarization, and chatbots. Today a large number of organizations use Natural Language Processing to process textual data from social media to make decisions in messaging, selling, and in social entrepreneurship. Starting with an introduction to text mining using python, students will move on to learn best practices for searching, reading, scrapping, cleaning, and processing text from multiple sources. Other topics covered include how to implement Latent Semantic Analysis (LSA) and Latent Dirichlet Allocation, respectively, for text indexing and topic modeling.
	2. **Prerequisites**: I&C SCI X426.73 Introduction to Machine Learning & AI AND I&C SCI X426.74 Neural Networks & Deep Learning
1. **Cloud Services for Machine Learning**【学分：2.5 units (25 hours) each 】

 – *August 26– December 2, 2023, Every other Saturday，Remote via Zoom*

* 1. How data is managed and leveraged is changing due to the use of cloud services, which allows businesses to meet their needs faster when in-house operations run into scalability issues due to large amounts of data. In this course, students will learn how cloud services provide individuals and companies a cost-effective way to train and deploy memory-intensive, complex Machine Learning and Deep Learning models using image and text data. The course focuses on implementing varying types of projects based on data input and how to build, develop, and predict models using varying APIs for machine learning and deep learning tasks. The course also provides a review of ML models and uses Python to evaluate and deploy models.
	2. **Prerequisites**: I&C SCI X426.73 Introduction to Machine Learning & AI AND I&C SCI X426.74 Neural Networks & Deep Learning AND I&C SCI X426.80 Text Analytics & Natural Language Processing

**导师介绍：Majed Al-Ghandour, PhD**

Dr. Majed Al-Ghandour has a PhD in Engineering from NC State University and teaches for UCI- Division of Continuing Education (DCE), NCSU, and Wake Technical Community College for over 24 years. Majed teaches several courses at UCI, Continuing Education including Introduction to Data Science, Data Engineering, and Introduction to Machine Learning, and Docker Fundamentals with AWS. Majed also teaches Data Analytics for MBA Graduates as a Visiting Lecturer for NCSU. He has extensive experience in data analytics, machine learning, and cloud computing.

**Arin Ghazarian, Ph.D.**

Arin Ghazarian is currently a Senior Lead Machine Learning Engineer at Universal Music Group. Prior to that, he was Principal Data and Machine Learning Engineer at The Walt Disney Studios and Senior Big Data Engineer at 20th Century Fox. He has around two decades of experience in the areas of software engineering, data engineering, machine learning, and data science, specifically in domains like movie/music entertainment and health/medical fields. His PhD research focused on the application of machine learning to ECG analysis and privacy preserving data analysis in cardiology. He brings his years of experience in implementing large scale data analytics and machine learning projects to the classroom, preparing students to excel both in job interviews and in their real-world assignments in industry.

**Phuc (Brian) Nguyen, M.S.**

Phuc (Brian) Nguyen, a Red Hat Certified Specialist, is the Machine Learning Architect for Red Hat. He has been working in the information technology fields for more than 8 years as web developer, software engineer, system consultant, technical lead, and machine learning architect. His expertise includes software development, front-end engineering, distributed system using Kubernetes and OpenShift, cloud computing, machine learning, and application architecture. He is an active contributor for RedHat OpenShift Engineering Blog and Open Source Software Community. He has a passion in teaching and working with the end-user to educate people about the latest technologies in Artificial Intelligent, Machine Learning, and Cloud Computing

**英语教师（TEFL）教学研修证书**

**&**

**加州大学课堂实习**

加州大学欧文分校（UCI）TEFL证书是美国常见的(Post-Graduate Certificate,专业研究生证书)。本课程的教学内容涵盖了语言教学法的最新趋势，融合传统的教学模式，将教学理论与教学实践相结合，以求达到最佳教学效果。

在这个课程里，教学内容具有针对性和实用性，课程设置独特而新颖。主要针对未来准备从事外语教学的学生。学生将在这个课程里将获得国际化的教学理念，教学实践，以便能够尽快地掌握他们所需求的语言教学技能和全面提升教学能力。

本课程是一个模块式高强度、结合了在线和加州大学校园线下的密集型研究生证书课程。课程的实习部分学生可以选择在UCI本校或欧文市公立中学进行。学生在这个课程里可以亲自体验UCI严谨的英语学术氛围，获得实用的英语教学技能，提升学生在英语教学过程中的自信心，完善自身英语教学法，并与不同国家的学生/老师沟通，以开阔英语教学的国际视野。

在英语教学的行业里，已经运作了30年的UCI-TEFL证书拥有过硬的就业优势和学术【含金量】。

**课程内容：(学费: $625/课程; $2500 美元/4门课程)**

1. **Methods of Teaching English**【学分：2.0 units (20 hours) each 】

– *January 30 – February 10, 2023, M-F, Remote via Zoom*

* 1. Explore current methods for teaching specific skill areas such as speaking, listening, reading and writing with an emphasis placed on communicative teaching techniques and theories. Develop lesson plans, materials and instructional aids for your classroom, and learn how to motivate your students to study and learn by using a wide variety of language games and techniques.
1. **Teaching the Skills**【学分：2.0 units (20 hours) each 】

 – *March 18 – June 10, 2023, Every other Saturday, Remote via Zoom*

* 1. Learn general principles and strategies for effectively teaching the English language skills of reading, writing, listening, speaking, pronunciation, grammar, and vocabulary. Topics will include needs assessment, setting objectives, and selecting and using the appropriate materials.
1. **Teaching English Practicum** 【学分：2.0 units (20 hours) each 】

– *July 17 – August 11, 2023, M-F, UCI Campus/Remote via Zoom*

* 1. Prepare to be a successful ESL/EFL teacher. Cover principles for effective teaching and classroom practices. Practice teaching a variety of classroom activities focusing on different language skills. Evaluate peer presentations orally and self-presentation in writing. Observe or present communicative activities in authentic ESL classes and present a cultural lesson at a local school.
1. **Teaching Young Learners** – *Sept 9 – December 2, 2023, Every other Saturday*, *Remote via Zoom*
	1. Examine theoretical issues and pedagogical practices surround the teaching of EFL to young learners. Learn to recognize the differences in young learner age groups, understand basic concepts of childhood language development, and utilize different strategies and basic principles of classroom management and motivation of young learners.

**导师介绍：Judy Hu, MA**

Judy Hu has two decades of teaching experience on three continents. She holds a bachelor’s degree in psychology with a minor in business administration, a certificate in e-learning instructional design, and master’s degree in education with concentration in teaching English to speakers of other languages. She has taught in UCI-DCE's intensive ESL program and TEFL accelerated certificate program as a teacher trainer.

**职业财务分析证书**

**课程内容：(学费: $775/课程; $2800 美元/4门课程)**

1. **Corporate Finance** *(Remote via Zoom)* 【学分：2.0 units (20 hours) each 】

*-Dates: January 30 – February 20, 2023*

*-Schedule: TBD – classes will be held sometime M-F, 09:00 – 12:00 China Standard Time*

Description: This course introduces financial topics including time value of money with stock and bond applications, analysis of the capital asset pricing model, cash flow methods, and financial budgeting. Students will gain knowledge of fundamental topics in finance useful in evaluating investments and complex financial decision making.

**Prerequisites: none**

2. **Fundamentals of Financial Analysis** *(Remote via Zoom)* 【学分：2.0 units (20 hours) each 】

*-Dates: February 18 – June 3, 2023*

*-Schedule: TBD – every other Saturday, 09:00 – 12:00 China Standard Time*

Description: The goal of this course is to introduce and provide comprehensive concepts underlying financial statements and financial analysis techniques. Topics will also include tax strategies, examination of short financial forms, stock valuation analysis, and interpretation of ratio analysis in context of current regulations. Students will be able to evaluate statements in conjunction with other relevant financial information to formulate an opinion of the current market value and calculate intrinsic value.

**Prerequisites: none**

3. **Portfolio Management and Financial Modeling** (*UCI Campus/Remote via Zoom*)

【学分：2.0 units (20 hours) each 】

*-Dates: July 17 – August 11, 2023*

*-Schedule: TBD – classes will be held sometime M-F, 09:00 – 18:00 Pacific Daylight Time*

Description: This course applies portfolio theory to new financial products and strategies while providing introductions to investment policies and asset allocation decision making. Students will learn how to balance risk against performance of investments within a portfolio context while modeling real world data in both international and domestic markets.

**Prerequisites: none**

4. **Alternative Investment Strategies** *(Remote via Zoom)* 【学分：2.0 units (20 hours) each 】

-Dates: August 26 – December 2, 2023

-Schedule: TBD – every other Saturday, 09:00 – 12:00 China Standard Time

Description: The main goal of this course is to provide students an understanding of how to manage outside capital with a practical look into the world of Alternative Investments. Students will learn how to take advantage of exchange rates, the history of classic hedge fund strategies, and complex financial strategy valuation.

**Prerequisites: none**

**Jason Gurtovoy, Ph.D.**

Jason Gurtovoy is a Senior Economist and Data Scientist at REPSAS. He has worked in the Financial Services industry for over a decade in banking, investments, real estate, and as a consultant. He has 10+ years of experience teaching graduate and undergraduate courses in finance, economics, and data science. He has taught at UCI since 2017.

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