**加州大学欧文分校2018人工智能科研暑期课程**

**Experience University Research at UCI**

**课程教学概况：**

地点： 加州大学欧文分校（University of California, Irvine)

授课内容： 人工智能

授课语言： 英文

任课教师： 本校教师、教授、行业专家

学时： 25学时/周

**项目费用**： $5,000 USD

\* 住宿为校内宿舍双人间（如住单人间，需要自付差价）

\* 用餐：校内食堂用餐

**招生条件：**

1、本科大一至大三在读生（课程鼓励任何非理工科学生参加）；

2、英语四级或则六级，有雅思及其他外语成绩者优先

3、到行程结束为止，必须为在读学生；

4、能够且必须提供本人真实资料，如有拒签记录等情况需如实告知；

5、身体健康，有良好的精神面貌；

6、对美国文化和“人工智能”科研感兴趣

**说明：**

1、请有意参加的同学务必尽快办理好护照!

2、暑假期间是赴外交流的高峰期，因此建议确认参加的同学务必尽早报名，以便提前预定机票，节省开支。

University of California Irvine



Division of Continuing Education

Big Data and Machine Learning Program

# Tentative Two-Week Program Calendar (Dates, times, courses and field trip locations are subject to change)

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| --- | --- | --- | --- | --- | --- | --- |
| **Sunday** | **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** | **Saturday** |
| July 22  **Participants Arrive**  **Airport arrival and transport to UCI,**  **lodging check-in**  **Welcome to UCI!** | 23  Campus Tour  8:30am – 10:00am  Orientation  10:00am – 11:30am  **Welcome Lunch**  11:30pm–1:00pm  **Teambuilding Activity**  1:00-3:00pm | 24  **Fundamentals of**  **Data Science**  9:30am – 11:30am  **Lunch Break**  11:30am – 1:00pm  **Introduction to Group Project Work**  1:00pm – 3:00pm  **English for Specific Purposes**  3:00pm – 4:30pm | 25  **What Is Machine Learning (ML)**  9:30am – 11:30am  **Lunch Break**  11:30am – 1:00pm  **What Is Artificial Intelligence (AI) and the Difference from ML**  1:00pm – 3:00pm  **Conversation Partner Activity**  3:00-4:30pm | 26  **What Machines Can Do Better**  9:30am – 11:30am  **Lunch Break**  11:30am – 1:00pm  **Group Project Work**  1:00pm – 3:00pm  **English for Specific Purposes**  3:00pm – 4:30pm | 27  **What People Do Better**  9:30am – 11:30am  **Lunch Break**  11:30am – 1:00pm  **Field Trip: Center for ML and Intelligent Systems**  1:00pm – 3:30pm | 28 **Free Day** |
| 29 **Free Day** | 30  **Training Machines: The New Computing Model**  9:30am – 11:30am  **Lunch Break**  11:30am – 1:00pm  **Group Project Work** 1:00pm – 3:00pm  **Field Trip:**  **ESports Team Competition**  3:00 – 5:00pm | 31  **Creating a Training Strategy**  9:30am – 11:30am  **Lunch Break**  11:30am – 1:00pm  **AI for Societal Good**  1:00pm – 3:00pm  **English for Specific Purposes**  3:00pm – 4:30pm | August 1  **Field Trip:**  **1 Million Cups\***  7:30am – 9:30am  **Lunch Break**  11:30am – 1:00pm  **Group Project Work** 1:00pm – 3:00pm  **Conversation Partner Activity**  3:00-4:30pm | 2  **AI & Virtual Reality: The Next Frontier of Technology**  9:30am – 11:30am  **Lunch Break**  11:30am – 1:00pm  **Independent Group Project Work**  1:00 – 3:00pm  **English for Specific Purposes**  3:00pm – 4:30pm | 3  **Group Project Presentations**  9:00am – 11:30am  **Awards Ceremony & Luncheon**  11:30am – 1:30pm | 4  **Participants Depart** Check out and prepare for airport transferThank you for coming to UCI! |

\* Two startups give a 6 minute presentation spot, then give the live audience of 50+ people 20 minutes to ask questions, give feedback, and act as a focus group with the intention to help the presenting startups grow!The audience is comprised of investors, entrepreneurs, students, community members, service providers, etc.

**UC Irvine Division of Continuing Education**

**Professional Custom-Designed Programs**

**Artificial Intelligence Program**

**Sample Course Descriptions**

人工智能项目课程描述

Fundamentals of Data Science

数据科学基础

Data science is the intersection of analytics, programming, and statistics. In this course, students will learn the foundational skills and tools for data science. They will review real world examples and examine case studies to see how they can apply data science to in their careers and to help their organizations.

数据科学是分析、编程和统计的交集，在这门课程中，学生将会学习数据科学基础的技能和使用工具。学生将通过真实的例子和案例来运用数据科学于他们的职业生涯并帮助其组织。

What Is Machine Learning (ML)

机器学习

When it comes to computer programming, we no longer have to program every path or scenario. Instead, we can create machine programs that have the ability to learn on their own. In this course, students will learn what machine learning is and how it works. In addition, they will have hands-on experience with real machine learning solutions and develop ideas in which they will apply machine learning.

在这门课程中，学生将会学习机器学习的内容以及工作原理，创建能够自行学习的机器程序。此外，他们将拥有实机学习解决方案的实践经验，并发展他们将应用机器学习的想法。

What Is Artificial Intelligence (AI) and the Difference from ML

人工智能和机器学习的区别

AI. Machine learning. Digital assistant. There is a lot of products and services out there called “AI.” In this course, students will learn the definition of AI and why it is different from ML. They will explore real-world AI solutions and learn the basics on how to create a new AI powered product or service.

在这门课程中，学生将学习到人工智能的定义和与机器学习不同的原因，他们将探索真实世界的人工智能解决方案，并了解如何创建新的人工智能驱动产品或服务的基础知识。

What Machines Can Do Better

什么机器可以做得更好

When it comes to machines, people automatically think automation and the ability to do something faster, cheaper, or with fewer errors. AI has changed this paradigm by enabling new capabilities for machines. In this course, students will learn what these new capabilities are. Moreover, they will gain and understanding why machines can perform this work better than people. Students will get a chance to apply these new machine capabilities on a real-world project assignment.

这门课程中，学生将学习启用机器的新功能改变人们自动思考如何将机器自动化达到更快、更便宜、更少错误的模式。此外，他们将理解为什么机器人能够比人类更好地完成这项工作。学生将有机会将这些新机器能力应用于现实世界的项目任务中。

What People Do Better

人们什么做得更好

While machines can do some things better than people, people still excel in many areas over machines. In this course, students will learn where people have better capabilities and the limitations of machines. This is critical to understand in thinking, designing, and building AI (or even analytics) solutions.

在这门课程中，学生将学习人们有更好的能力和机器的局限性。这对于理解、设计、构建人工智能（甚至分析）解决方案至关重要。

Training Machines: The New Computing Model

培训机器：新的机器模型

With AI, the competitive advantage for organizations is how the machine is trained. Since this is a new computing model, students will gain the basics of how to train a machine. In addition, they will learn the importance of establishing solid decision rules as well as the access to data and domain experts. Moreover, they will review examples and case studies to see how good ideas failed because of poor training.

通过这门课程，学生将获得如何培训机器的基础知识，了解建立可靠决策规则的重要性，以及获取数据的重要性。此外，他们将对案件和案例进行研究，以了解因为培训机器不足而导致好想法失败的过程。

AI for Societal Good

人工智能改善社会

From climate change to crop yield studies, AI can benefit and transform lives. Students will learn the major changes that will be coming to see how society and industry will transform to meet future needs.

人工智能可以使受益并且改变生活，本课程中，学生将学习将要看到社会和行业将如何转变以满足未来需求的重大变化。

Creating a Training Strategy

制定培训战略

Training machines is not easy. It requires a comprehensive strategy and stellar execution because machines just cannott “unlearn.” In the course, students will learn how to create a training strategy and the best practices involved. They will get hands-on experience by developing a training strategy for a real-world product.

在本课程中，学生将学习如何创建一个培训策略和参与到最佳实践中。他们将通过制定真实世界产品的培训战略来获得实践经验。

AI & Virtual Reality: The Next Frontier of Technology

人工智能与虚拟现实：技术的下一个前沿

AI. Virtual reality (VR.) Blockchain. These are the emerging technologies that are being rapidly adopted. However, AI is more of a platform on which these other technologies will be integrated. In this course, students will learn how these technologies can be combined to create the next generation of cutting edge products and services. Working on a group project, students will have the opportunity to invent and innovate the next frontier of technology.

这门课程中，学生将学习如何将人工智能、虚拟现实、区块链结合起来创造下一代尖端产品和服务。在小组项目中，学生将有机会发明和创新下一个前沿的技术。

English for Specific Purposes

用于特定目的的英语

This course is designed to strengthen the student’s understanding and confidence in utilizing terminology, concepts, and themes specific to AI, ML, and computer science.

本课程旨在加强学生对利用特定于人工智能、机器学习和计算机科学的术语、概念和相关主题的理解和信心。

**SAMPLE INSTRUCTOR BIOGRAPHIES**

Neil Sahota, PgMP, PMP, PMI-ACP, CSP, CSM, PRINCE2, CGEIT, is an IBM Master Inventor and Ecosystem Engagement Manager in the IBM Watson Group. With more than 15 years’ experience in business, he works with high growth business partners to ideate next generation products/solutions powered by Watson. His work experience spans internationally among multiple industries including healthcare, life sciences, retail, travel and transportation, energy and utilities, automotive, telecommunications, media, and government. Neil is one of the few IBMers selected for IBM's Corporate Service Corps leadership program that pairs leaders with NGOs to perform community-driven economic development projects. For his assignment, Neil lived and worked in Ningbo, China where he partnered with Chinese corporate CEOs to create a leadership development program. Neil is also an active volunteer in IBM’s Academic Initiative program that creates partnership opportunities between the IBM and the country’s top universities. Neil has been awarded 24 certificates from UCI Extension, 3 undergraduate degrees and an MBA from UCI. He has been an active member of the University of California, Irvine (UCI) Alumni Association for over a decade, is a former member on the UCI Alumni Board of Directors and Executive Committee and is a dynamic instructor for the UCI Extension Project Management Certificate Program.

*\*Courses and course content is subject to change at the discretion of UC Irvine.*

*\*\*Instructors are for sample only. Instructor selection is subject to change.*