Course Title: Artificial Intelligence Masterclass: Guided Journeys into the Brave New World of AI

Course Code: SCI 54
Instructor: RONJON NAG, PHD

Course Summary:

Artificial intelligence (AI) promises innovations that will change not simply industries, but more importantly the way we live. Many innovations will be undeniably positive, though some might be destabilizing to our society. Welcome to the brave new world of artificial intelligence.

In this course, an array of experts will offer students a hands-on exploration of innovations in artificial intelligence taking place across numerous fields—from gaming to genetics and from finance to fine art. The instructor will lay the foundation with an introduction to what artificial intelligence is and how it functions. Students will work on their computers to gain firsthand experience with essential AI concepts. This will be followed by dedicated master classes with distinguished experts in their fields. Scheduled speakers include Michael Snyder (Professor in Genetics, Stanford), who will talk about personalized genomics for predicting disease; Danny Lange (Vice President of AI and Machine Learning, Unity Technologies), who will cover the world of AI for gaming; Kay Giesecke (Professor of Management Science & Engineering, Stanford; Director, Stanford Advanced Financial Technologies Laboratory), who will discuss AI for the housing, finance, and real estate markets; and Andrew Yang (Founder, Venture for America; US presidential candidate for 2020), who will discuss the controversial issue of whether AI will necessitate the introduction of a universal basic income.

No prior programming experience is required, though students would benefit from understanding some middle school-level algebra. Students are required to bring a fully charged laptop computer to class.
Grade Options and Requirements:
• No Grade Requested (NGR)*
This is the default option. No work will be required; no credit shall be received; no proof of attendance can be provided.
• Credit/No Credit (CR/NC)
A passing grade (for “Credit”) = 60% attendance
• Letter Grade (A, B, C, D, No Pass)
Students must attend at least 60% of class sessions, and complete a three-page research report

*Please Note:
If you require proof that you completed a Continuing Studies course for any reason (for example, employer reimbursement), you must choose either the Letter Grade or Credit/No Credit option. Courses taken for NGR will not appear on official transcripts or grade reports.

Weekly Outline:

Oct 2nd: Dr. Ronjon Nag, Introduction to AI, neural networks and deep learning with hands-on experiences
October 9th: Prof. Michael Snyder: Personalized medicine and wearables
October 16th: Dr. Ronjon Nag: a hands-on experience to training AI systems
October 30th: Dr. Danny Lange, VP AI and Machine Learning Unity Technologies, AI in Gaming with hands on experiences.
November 6th: An introduction to quantum computing
November 13th Prof. Kai Geisecke: AI for Housing Finance and Real Estate Markets
Recommended Reading:

- Make your own Neural Network: A Gentle Journey through the Mathematics behind Neural Networks and Making your own using Python Computer Language by Tariq Rashid (2016)
- The War on Normal People, by Andrew Yang