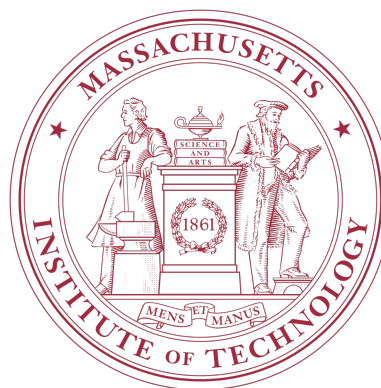




Massachusetts Institute of Technology

This is to certify that

Andrew Adem



has successfully completed the

Architecture and Systems Engineering : Models and Methods to Manage Complex Systems PROFESSIONAL CERTIFICATE PROGRAM

Awarded July 2019

(8.5 Continuing Education Units Awarded)

A handwritten signature in black ink, reading "Sanjay Sarma".

Sanjay Sarma

Vice President for Open Learning
Massachusetts Institute of Technology

A handwritten signature in black ink, reading "Dr. Bruce Cameron".

Dr. Bruce Cameron

Director, System Architecture Lab
Massachusetts Institute of Technology