

Advanced Solutions Technical Institute

Certificate of Training in Artificial Intelligence

(This Course Addresses Universal Artificial Intelligence Diploma; 1st known practical Neural Network Course with an Introduction to Artificial General Intelligence.

Course Description

Targeting computer users who are already programmers, this course engages participants in critically reflective and thoughtful analysis and practical application of the technologies that drive Artificial Intelligence (AI). The course attends to understanding AI, Machine Learning and Deep Learning as well as application of said tech stack, by understanding and applying best-practice guidelines. The course is designed for students to appreciate the application of artificial intelligence and data science fundamentals to solve real world problems. The topics covered in this course will enable students to solve resource allocation, decision making and related problems that professionals in any industry are likely to encounter.

Through individual and small group explorations, course participants will critically examine the various levels of AI technology and the technical toolsets that are being used. From a more practical standpoint, the course is delivered in a manner that is experiential and transformational in order to connect to users on a practical level that will allow them to relate the theoretical guidelines and proposed best-practices to the context/situation in which he/she serves (or will serve) as a professional.

This course uniquely introduces Students to a mode of Ai called Artificial General Intelligence that is expected to emerge by 2029, by Google's Ray Kurzweil et al., as well as outlines its likely impact on the workforce.

Fun fact [1]: This is the 1st known practical Neural Network Course with an Introduction to Artificial General Intelligence.

Fun fact[2]: This originally stemmed from an initiative to develop world's 1st university, just for Artificial Intelligence. (See local newspaper articles by ASTI Ai Course Author, in [2018](#) and [2019](#))

***Smart Course Modules for Programmers
(Certificate & Diploma Pathways)***

| Professional (Diploma) | Technical (Certificate) |
|---|--|
| <p>Prep-Module #1: Quickly recap Python Programming. (Numbers, Arrays, Conditions) (30 minutes)</p> <p>Prep-Module #2: Develop numpy Programming [Arrays, Array indexing, Datatypes, Array math, Broadcasting] (1 hour)</p> <p>Prep-Module #3: Do Python Pickle/data wrangling [When not to use pickle, Pickling files, Unpickling files, Compressing pickle files...] (40 minutes)</p> <p>Prep-Module #4: Perform Github Setup (Universal Code organization - A social hub for source code sharing and viewing) (1 hour)</p> <p>Module #1: Develop Fundamental Artificial Neural Networks. (ANNs power most smart apps today, and they are Universal Function Approximators)</p> <p>Module #2: Do Machine Learning Library Practice. Use powerful machine learning libraries like Tensorflow, Mxnet to solve problems.</p> <p>Module #3: Practical Convolutional Artificial Neural Network application (Seen in real world in Self driving cars, Disease Diagnosis engines etc)</p> <p>Module #4: Practical Recurrent Artificial Neural Network application (Seen in real world in any voice recognition App)</p> <p>Module #5: Practical Generative Adversarial Network application (Seen in real world in synthetic Avatar Apps)</p> <p>Module #6: Practical Reinforcement Learning application (Seen in real world in Electricity Consumption optimization)</p> | <p>Prep-Module #1: Quickly recap Python Programming. (Numbers, Arrays, Conditions) (30 minutes)</p> <p>Prep-Module #2: Develop numpy Programming [Arrays, Array indexing, Datatypes, Array math, Broadcasting] (1 hour)</p> <p>Prep-Module #3: Do Python Pickle/data wrangling [When not to use pickle, Pickling files, Unpickling files, Compressing pickle files...] (40 minutes)</p> <p>Prep-Module #4: Perform Github Setup (Universal Code organization - A social hub for source code sharing and viewing) (1 hour)</p> <p>Module #1: Develop Fundamental Artificial Neural Networks. (ANNs power most smart apps today, and they are Universal Function Approximators)</p> <p>Module #2: Do Machine Learning Library Practice. Use powerful machine learning libraries like Tensorflow, Mxnet to solve problems.</p> <p>Module #3: Practical Convolutional Artificial Neural Network application (Seen in real world in Self driving cars, Disease Diagnosis engines etc)</p> <p>Module #4: Practical Recurrent Artificial Neural Network application (Seen in real world in any voice recognition App)</p> <p>Module #5: Learn ASTIS “RED” Methodology: Rapid Experimentation Delivery of Ai apps, i.e. key steps for agile/machine learning/Ai deployment.</p> <p>Module #6: Introduction to Artificial General Intelligence (Predicted as mankind’s last invention around 2029, by Prof Ben Gortzel, Dr Eray Ozkural etc)write a deep learning research paper</p> <p><u>Module 1 to 6 (about 4 weeks)</u></p> |

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| <p>Module #7: Learn ASTIS “RED” Methodology: Rapid Experimentation Delivery of Ai apps, i.e. key steps for agile/machine learning/Ai deployment.</p> <p>Module #8: Introduction to Artificial General Intelligence (Predicted as mankind’s last invention around 2029, by Prof Ben Gortzel, Dr Eray Ozkural etc)write a deep learning research paper</p> <p>Module 1 to 8 (about 6 weeks)</p> <p>Fourth Semester Project/Assessment: Build a Deep Learning/Ai product. (See Rubric: Rubric_ASTIS Practical Ai Diploma Examination)</p> | <p>Fourth Semester Project/Assessment: Write an Ai/Deep Learning research paper. (See Rubric: Rubric_ASTIS Practical Ai Certificate Examination)</p> |
| Duration: 6 Weeks | Duration: 4 Weeks |
| Award: Diploma | Award: Certificate |
| COST: 550 USD *150 USD Assessment cost included | COST: 350 USD |
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Professional (Diploma-Programmers-with-python-experience)

Same as (Diploma-Programmers-without-python-experience), save for 30 minutes of python brush up time