Artificial Intelligence Technologies				
	Core Thread		Advanced Thread	
Monday 21/06/2021	Dayoff			
Tuesday 22/06/2021	Python. Database			
10.00 – 11.00	Opening ceremony of the school			
11.20 – 12.20	Python Programming. Work with the files. Data structures in Python. Data analysis and Visualisation library	Oleh Kaskun (SoftServe,LNU)		
12.40 – 13.40	Practical class: Python Programming. Work with the files. Data structures in Python. Data analysis and Visualisation library	Oleh Kaskun (SoftServe, LNU)		
15.00 – 16.00	NoSQL. JSON, XML, MongoDB	Roman Mysiuk (EPAM, LNU)	Comparative usage of noSQL and SQL DBMS in enterprise applications	Hanna Kaplun (Intellias)
16.20 – 17.20	Practical class: Work on NoSQL in Python	Vasyl Kushnir (Justanswer, LNU)	NoSQL Databases	Anton Ovchar (Genesis)
17.20 - 18.00	Work on the projects			
Wednesday 23/06/2021	Data Security			
10.00 – 11.00	Install MLTK: Python fot Scientific Computing, Splunk Mashine Learning Toolkit. Predict Numeric and Categorial Fields	Venherskyi Petro (LNU)		
11.20 – 12.20	Forecast Time Series, Cluster Numeric Events	Venherskyi Petro (LNU)	What biological neural networks compute?	Viacheslav Osaulenko (KPI)
12.40 – 13.40	Predict Numeric and Categorial Fields	Karpyuk Roman (SoftServe)	“Internet of Things: What it is? How it works? And why do you need to know more about technology that will change the way we live?”	Max Yablonskyi (Indeema)
15.00 – 16.00	Detect Numeric and Categorical outliers	Karpyuk Roman (SoftServe)	What are the company's requirements for developers	Igor Luzhanskiy (Chatbots.Studio)
16.20 – 17.20	Practical cases: detection, anomalies for logs from SIEM system	Karpyuk Roman (SoftServe)	Node Red	Bohdan Buhrienko, Solomiya Kubinska (Chatbots.Studio)
17.20 - 18.00	Work on the projects			
Thursday 24/06/2021	Data Engineering			
10.00 – 11.00	Data Science. Using Augmented Reality in Interior & Property Design: How Did We Live Without It?	Max Kmet, (Grid Dynamcis), Sevil Smailova (Grid Dynamcis)		
11.20 – 12.20	Big Data, A brief introduction to Big Data(personal story).	Ivan Lasiichuk, (Grid Dynamcis)		
12.40 – 13.40	Feature Engineering	Anton Popov (KPI)		
15.00 – 16.00	Discussion: Artificial Intelligence in Ukraine: challenges or prospects?			
16.20 – 17.20	Discussion: Artificial Intelligence in Ukraine: challenges or prospects?			
17.20 - 18.00	Work on the projects			
Friday 25/06/2021	Data Analysis			
10.00 – 11.00	Data Science and Bayesian Analysis	Maksym Nechepurenko (Newton Principle Agency), Oleh Buhrii (LNU)	Computer vision. Usage of convolutional networks for segmentation	Yurii Malna (Eleks)
11.20 – 12.20	Recommender systems understanding and practical implementation	Sofiia Petryshyn (Avenga)	Practical class: OpenCV using Python. Use of OCR and OpenCV for check discernment as well as in production	Yurii Malna (Eleks)
12.40 – 13.40	Recommender systems understanding and practical implementation	Sofiia Petryshyn (Avenga)		
15.00 – 16.00	Designing and Implementing a Data Science Solution on Azure	Iryna Zakharchenko (Avenga)		
16.20 – 17.20	Computer Vision Intro and case studies	Kolinko Danylo (Avenga)		
17.20 - 18.00	Work on the projects			

	Advanced Thread			
Monday 28/06/2021	**Day off**			
Tuesday 29/06/2021	**The Fundamentals of Machine Learning**			
10.00 – 11.00	Decision treea and regression	Orest Varga (GlobalLogic)		
11.20 – 12.20	Practical class: Building decision trees and regression models using Python.Scikit-learn library	Vasyl Lyashkevych (GlobalLogic)	The practics includes implementation of classification and regression models based on Decision Tree algorithm using Scikit-learn library.	
12.40 – 13.40	Clustering and classification by means of machine learning	Orest Varga (GlobalLogic)		
13.50-14.50	Working as a remote by design AI startup – challenges, introductions, working environments. Covid-19 had no impact on us. Why digitalization is the future.	Jonas Szalanczi (NeuroForge)		
15.00 – 16.00	Machine Learning: types, features and practical application	Vasyl Lyashkevych (GlobalLogic)	The lecture considers a learning process like ML basics. Here we get a knowledge about what exacly is learning in ML, what are types of ML and their practical value in industry.	
16.20 – 17.20	Practical class: development of machine learning models in Python using different learning methods	Orest Varga (GlobalLogic)		
17.20 - 18.00	Work on the projects			
Wednesday 30/06/2021	**Neural Networks and Deep Learning**			
10.00 – 11.00	Neural netwoks	Vasyl Lyashkevych (GlobalLogic)	Nowadays neural networks is a major field of the AI application. Thus we will discuss about nature of neural networks and thier basic architectures, how "neural network" is thinking, how and when we can apply the neural network approach.	
11.20 – 12.20	Deep learning	Orest Varga (GlobalLogic)	Introduction to Deep Learning. Structure of Convolutional Neural Network. Concepts. Deep learning in practice	
12.40 – 13.40	Learning neural networks using Python	Vasyl Lyashkevych (GlobalLogic)	On the lecture we will talk about different methods for NN training, different frameworks with one particular example in Python	
13.50-14.50	Machine Learning: From test datasets to real life world problems	Nicolas Hilberg (NeuroForge)		
15.00 – 16.00	Practical class: Development of the deep learning models using Python	Vasyl Lyashkevych (GlobalLogic)	Within hands-on we will create a small data-set, train a convolutional neural network with own hyperparameters for car detection problem.	
16.20 – 17.20	Modern areas in the development of neural networks and deep learning	Orest Varga (GlobalLogic)	Latest trends in deep learning. Deep reinforcement learning, transformers, NAS, etc.	
17.20 - 18.00	Work on the projects			
Thursday 01/07/2021	**Computer Vision and Evolutionary Computation**			
10.00 – 11.00	The main tasks of computer vision, objects detection and recognition	Orest Varga (GlobalLogic)		
11.20 – 12.20	Practical class: OpenCV using Python	Vasyl Lyashkevych (GlobalLogic)	Hands-on "Pure Computer Vision with OpenCV" includes the practics for: color management, edge detection, shape detection and simple object tracking tasks	
12.40 – 13.40	Computer Vision tasks	Orest Varga (GlobalLogic)	Other computer vision tasks: segmentation, pose estimation, action recognition, GAN	
15.00 – 16.00	Discussion: Artificial Intelligence: what does the future hold for education?			
16.20 – 17.20	Discussion: Artificial Intelligence: what does the future hold for education?			
17.20 - 18.00	Work on the projects			
Friday 02/07/2021	**Applied Tasks in Machine Learning**			
10.00 – 11.00	Natural language processing (NLP)	Vasyl Lyashkevych (GlobalLogic)	The lecture covers a majority of the questions from Natural Language Modelling to Natural Language Generation problems. Here we will discuss about of the main aspects of Natural Language Processing Applications including Knowledge Graphs and Ontologies.	
11.20 – 12.20	Practical class: Natural language processing using Python	Vasyl Lyashkevych (GlobalLogic)	Hands-on "Text processing" is going to give the intuition to the student how to process a huge massive of the textual information and how represent and order them in data-sets.	
12.40 – 13.40	Applied Machine Learning in Autonomous Driving	Orest Varga (GlobalLogic)	Overview of autonomous driving. Challenges, sensors, building blocks, approaches, perception, models, datasets, etc.	
15.00 – 16.00	AI in Sport Applications	Orest Varga (GlobalLogic), Vasyl Lyashkevych (GlobalLogic)	Demo of computer vision and ML in sport applications	
16.20 – 17.20	**Defense of the projects**			