General Info

Organized by: University of Salerno, Department of Information and Electrical engineering and Applied Mathematics (DIEM)
Name of the Advanced School GPU based HPC infrastructure for image-based omic data analysis
Objective and learning goals The School aims at providing students with an update on the most recent advancement from scientific and technological point of view about adoption of AI models in Healthcare together with knowledge for training and deploying advanced and complex AI deep learning models including emerging LLM for the analysis of image and omic data on large HPC datacenter.
Subject/scientific programme The school will last 5 days. The 5 days will be organised with the following structure (tentative): • 1st day: 3 lectures will be held on recent advance in AI more generally, and for healthcare domain in particular; • 2nd and 3rd day: NVIDIA will show how to use an HPC computing infrastructure for developing, deploying and training advanced (large) AI models including LLM on HPC datacenter; • 4th day: AMD will show how to use their GPU (to be confirmed; in case, NVIDIA will provide a further workshop); • 5th day: the MIVIA lab researchers will show the achieved results in AI applications in several fields from medicine to robotics, cybersecurity and autonomous vehicle driving.
Methods of carrying out the lessons The 1st and 5th day of the School will take the form of lesson/seminar. The 2nd, 3rd and 4th day will take the form of workshop that includes theoretical and practical sessions. Every session will be in presence.
Teachers Three invited speakers have been scheduled for the first day. The lectures will be given by: - Mihaela van der Schaar, from John Humphrey Plummer, Professor of Machine Learning, Artificial Intelligence and Medicine at the University of Cambridge (confirmed); - George Gottlob, Professor of Informatics at the University of Calabria (to be confirmed); - Rosa Maria Badia, Manager of the Workflows and Distributed computing Group at the Barcelona Supercomputing Center (BSC), past Associate Professor at the Computer Architecture Department (DAC) at UPC. The workshops organized by NVIDIA and AMD (scheduled for the 2nd, 3rd and 4th day) will last 8 hours per day and will be held by their qualified teachers. The seminars scheduled for the 5th day will be held by Professors belonging to the MIVIA lab.
Duration The School will last 5 days and will be in English.
Dates It is expected to organize the School in the last week of October 2024 (tentative).
Lesson times The 1st day is planned to include 3 lectures of 1 hour/1 hour and half, plus discussions. The workshops scheduled for the 2nd, 3rd and 4th day will last 8 hours.

The seminaries scheduled for the 5th day will last approximately 4 hours.

Location

The School will be organized at the DIEM – University of Salerno, in the Campus of Fisciano, Building E, first floor.

Admission requirements

The School will be open to PhD students, researchers and UNISA technical staff. To attend the NVIDA and AMD workshops, knowledge of Python and most recent deep learning and machine learning libraries such as pytorch, Keras, TensorFlow, scikit-learn, Pandas, etc. is required.

Recruitment of participants

The maximum number of participants is 20. At least 5 positions will be allocated to UNISA technical staff, and 2 positions will be allocated to participants outside the PRP@CERIC Consortium. For the remaining positions, priority will be given to UNISA personnel.

Documentation to be submitted

The participant applications will be collected using a web form.

Evaluation of participants

Participants will be selected based on their curricula and meeting the criteria above described.

Certificate of attendance

The School will provide a certificate of attendance. The workshops held by NVIDIA, upon request, will provide a specific certificate too.

Contact person

For any questions about the School, please refer to Prof. Pierluigi Ritrovato, University of Salerno – DIEM; pritrova@unisa.it; 089-964289.