PHAROS

THE GREEK AI FACTORY

Pharos Training Series

Dr. Nikos Bakas, GRNET

EuroHPC Joint Undertaking

Co-funded by the European Union

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ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
Υπουργείο Ψηφιακής Διακυβέρνησης και Τεχνητής Νοημοσύνης

Training series

- Courses span foundational to advanced AI topics, covering **technical skills and regulatory understanding**
- **Sector-specific applications** in areas such as **healthcare, language, culture, and sustainability**.
- Training is accessible through **on-demand video lessons, hands-on labs, interactive tutorials, and expert-led webinars** to accommodate diverse learning preferences and schedules.

CUSTOMIZED TRAINING CURRICULUM

FLEXIBLE DELIVERY FORMATS

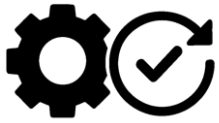
HANDS-ON TRAININGS

Training series

- **Intermediate Track:** Emphasizing AI model fine-tuning, data visualization, and specific industry applications.
- **Advanced Track:** Covering deep learning, generative AI, reinforcement learning, and the design of large-scale AI systems.
- **Specialized Tracks:** Focused on industry-specific applications (e.g., AI in healthcare) and cross-cutting themes like AI ethics, regulatory compliance, and business strategy.

Training Needs Assessment

- A comprehensive **Training Needs Assessment (TNA)** is being conducted, with feedback mechanisms in place to ensure that training remains relevant and up-to-date with industry advancements and regulatory requirements.
- The **Training Needs Assessment (TNA)** Questionnaire has been sent out for responses.
- *We will share the link in the chat!*



CONTINUOUS SKILLS ASSESSMENT AND ADAPTATION

Continuous Quality Assessment

- A quality assessment of the training programs will be conducted through a questionnaire that will be distributed to participants to provide feedback.

- *We will share the link in the chat!*

CONTINUOUS QUALITY ASSESSMENT

Curriculum - Intermediate Level

- **Target Audience:** Startups, SMEs, and researchers with some experience in AI development.
- **Content Focus:** Model fine-tuning, AI toolchains, intermediate machine learning techniques, data visualization, and use case implementation.

Curriculum - Advanced Level

- **Target Audience:** Experienced AI developers, data scientists, and startups aiming for cutting-edge AI implementations.
- **Content Focus:** Advanced AI topics such as deep learning, reinforcement learning, generative models, transfer learning, and large-scale AI system design.

The European High Performance Computing Joint Undertaking (EuroHPC JU)

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DISCOVERER
BULGARIA

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SLOVENIA

DEUCALIO
PORTUGAL

MARENOSTRUM 5
SPAIN

Supercomputing

X 200,000

0.05 km/h

1 km/h

100 km/h

1,000 km/h

10,000 km/h

1,000,000,000 km/h

1 TFlop

X 1,000,000

1 EFlop

Operations	Name	Abbreviation
1	FLOPS	FLOPS
10^3	Kilo FLOPS	KFLOPS
10^6	Mega FLOPS	MFLOPS
10^9	Giga FLOPS	GFLOPS
10^{12}	Tera FLOPS	TFLOPS
10^{15}	Peta FLOPS	PFLOPS
10^{18}	Exa FLOPS	EFLOPS

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ML Track

Training Series

Course 1

Machine Learning Fundamentals

SEPTEMBER 24, 2025 | 10:00 EET | ONLINE

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Pharos AI Factory Training Series
Course #1 (Part of ML Specialization)

Time	Title	Instructor
10:00-10:10	Introduction to Pharos Project	Stelios Karozis, NCSR Demokritos
10:10-10:30	Pharos Training Events	Nikos Bakas, GRNET / Thanos Voulodimos, NTUA
10:30-12.00	Exploratory data analysis	Maria Lymperaiou - Giorgos Filandrianos, NTUA
12.30-14.00	Classification	Maria Lymperaiou - Giorgos Filandrianos, NTUA
14.00-14:10	QnAs	All

Date: 24 September 2025
Language: Greek
Prerequisites: Basic knowledge of Python, Python libraries
Materials: notebooks with code and explanations in markdown cells.

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HPC Track

Training Series

Course 2

Introduction to HPC

SEPTEMBER 26, 2025 | 10:00 EET | ONLINE

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Pharos AI Factory Training Series
Course #2 (Part of HPC Specialization)

Time	Title	Instructor
10:00-10:30	Setup and troubleshooting of the virtual HPC environment, to be used in the training	Nikos Triantafyllis, GRNET
10:30-10:40	Introduction to Pharos Project	Stelios Karozis, NCSR Demokritos
10:40-10:50	Pharos Training Events	Nikos Bakas, GRNET / Thanos Voulodimos, NTUA
10:50-12:50	Hands-On Parallel Programming with OpenMP	Iakovos Panourgias, GRNET
12:50-13:10	How to access EU Supercomputers	Nikos Bakas, GRNET
13:10-13:40	How to run OpenMP jobs with SLURM Scheduler	Nikos Triantafyllis, GRNET
13:40-14:00	QnAs	All

Date: 26 September, 2025
Language: Greek
Prerequisites: Basic knowledge of Linux command line interface and docker containers.
Materials: computer code, slurm scripts and instructor notes.

Specializations

1. High-Performance Computing
2. Machine Learning
3. Computer Vision
4. NLP and Large Language Models
5. Generative AI

- Health and AI/HPC
- Sustainability-Environment and AI/HPC
- Language and Culture and AI/HPC

- AI Ethics and Compliance
- Business Strategy and AI Management

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