

## The Computer Science MSc program

### Overview:

The Computer Science (CS) curriculum provides knowledge in **artificial intelligence (AI)** and **digital twins** that is applicable in many fields of science and industry, including engineering, molecular biology, and more. The curriculum provides **work experience in high quality industry and international projects** for motivated and skilled students **during the education**, thus prepares students for interdisciplinary professional work and participation in research including PhD programs.

The **core material** of the program consists of mandatory courses on programming, digital twin concepts, machine learning technologies, high-performance computing (HPC), web- and digitalization technologies, beside some math basic technologies: numerical linear algebra and nonlinear optimization.

Then students pick elective courses to create their own track specialization. Thus they either take an **AI-track** with artificial neural networks, Big Data technologies, cloud computing, **Digital twin-track** with numerical methods for differential equations, data assimilation, model reduction, or any combination of elective courses for their **own track**.

Mandatory “Project work” courses of the 2<sup>nd</sup> and 3<sup>rd</sup> semester give project experience to students at companies or international university projects that prepare the thesis work as well.

### Teachers:

Course leaders are well known experts on their fields by the international academic community and related business.

### Further materials:

The schedule of the courses, introductory video on the AI technologies by the course leaders can be found at the website of the CS-program at <https://compsci.hu/>. For information on admission, see the web pages on overall information [here](#) and further details (incl. tuition fee) [here](#).

### Contact:

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### Program supervisor:

Prof. Zoltán Horváth, head of department, who is president of the European Service Network of Mathematics for Industry and Innovations (EU-MATHS-IN).

