**Opportunity of MSc Dissertation with Internship**

**(Tesi di Laurea in Azienda)**

| **Context of the research activity** | |
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| Motivations and objectives of the research | A Bayesian Optimization of Experimental Design (BOED) framework has been recently developed, in which very efficient computational methods are used to find the experiment settings that are expected to bring the largest amount of information (Expected Information Gain, EIG). BOED algorithms have also been implemented to address sequential decision making.  The objective of this thesis work is to develop BOED algorithms to address practical industrial issues like Computational Fluid Dynamics (CFD) experiments or portfolios of accelerated reliability tests, to reduce the time and costs of the testing activities. |
| Internship | The methodology will be developed together with AI experts from ARAMIX srl and, possibly, experts from partner companies, with possible practical testing activities performed.  ARAMIX is a highly qualified technical consulting company, which investigates and develops advanced methodologies and algorithms for the analysis of industrial systems and components, in support to several important industrial companies. |
| Required Skills | * Very good modeling skills * Very good knowledge of Python programming. * Interest in developing innovative algorithms to tackle real industrial applications. |
| Educational objectives | Professional skill in AI applications to industry |
| Names of the research director | Enrico Zio |
| E-mail address, phone number and web-page | Email: [enrico.zio@polimi.it](mailto:enrico.zio@polimi.it)  Ph: +39 02 2399 6340 |
| **Duration of the dissertation** | |
| Total thesis duration | Approximately 6 Months. No pending exams. |

**Starting date: June 2025**