

Interactive Workshop on STE 2026

March 11 - 13, 2026, „Transilvania” University of Brasov, Romania

Workshop: Introducing Computational Tool in Engineering Curriculum - An Example through Probability and Statistics for Machine Learning using Python

The Engineering Curriculum usually introduces students to few computing tools, as found necessary to help comprehend the concepts of the course. Any Engineering Tool, is a ‘Double-Edged Sword’; as an incorrect use, may result in the student dependent on the exact use of the in-built command to get the desired solution in a single step; while through the programming approach that ensures development of the code from scratch (from mathematical equation to code); actually, helps students comprehend the intended engineering concept. It is purely in the pedagogy adopted by the faculty; that ensures student learning using the engineering tool. The objective of the proposed workshop is to address this issue, through an example of using Python, an open-source programming environment, for introducing concepts of Probability and Statistics for Machine Learning.

Workshop Objectives, Target Audience, and Required Equipment (if applicable)

The Workshop emphasizes on pedagogy that can be adopted while introducing students to a computing tool. It is through the personal journey in teaching and assessments; that has evolved over the years; through feedback and corrective measures introduced. The outline of the Workshop was presented through the session titled, ‘The need for paradigm shift in Engineering Education, in view of available computational power’, in Track 4D, on May 29th, 2025; during The Learning Ideas Conference, 2025, held at New York (<https://www.learningideasconf.org/program-02>). The Workshop provides hands-on experience to the pedagogy and assessments introduced in the Course on ‘Probability and Statistics for Machine Learning using Python’.

Target audience: Faculty from any Engineering discipline; as the examples shall be from the core course on, ‘Probability and Statistics for Machine Learning’; a typical Core Course for most Undergraduate Engineering programs. The emphasis of the workshop is on the pedagogy and typical assessments for using a programming tool.

Required Equipment: Every participant should bring a computer and shall have an active Gmail, account as the platform for coding is, Google-Colaboratory.

Workshop Facilitator(s)



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