# Sustainable, Accurate, Fair and Explainable AI in finance

Paolo Giudici

University of Pavia
Via San Felice 7
Italy

Joint work with: Emanuela Raffinetti

We present a set of statistical metrics that can be employed to assess the risks of AI applications in finance and to develop an AI risk management model that can be used as a monitoring tool. The metrics are based on the regulatory requirements recently proposed in the European AI Act, which we propose to combine in a set of integrated statistical scores, all based on the extension of the well known Lorenz curve: from the measurement of concentration in population incomes to the measurement of concentration in machine learning predictions.

The statistical measures we propose concern: Sustainability, which refers to the resilience of the AI model output to extreme events and to cyber attacks; Accuracy, which refers to the predictive accuracy of the model; Fairness, which refers to the absence of biases towards specific population groups, induced by the AI output; Explainability, which refers to the capability of the model output to be oversight by humans, particularly in its driving causes.