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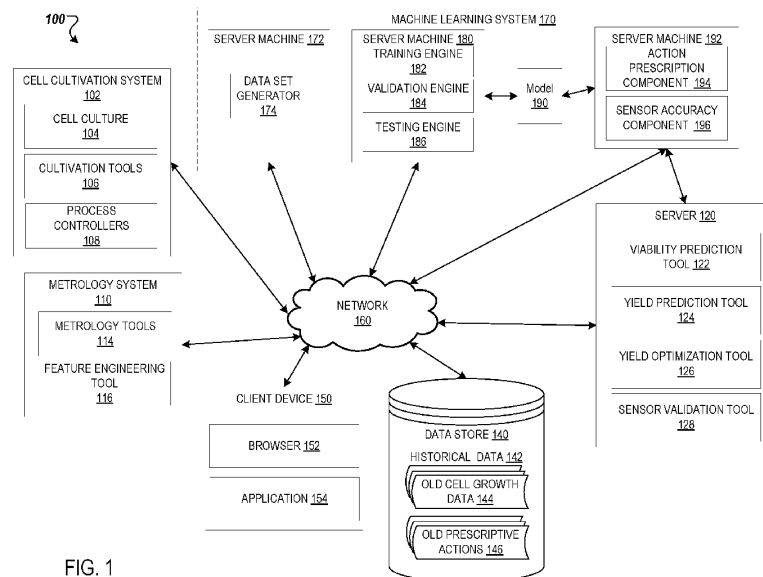


FIG. 1

(57) **Abstract:** The subject matter of this specification can be implemented in, among other things, methods, systems, computer-readable storage medium. A method can include receiving cell growth data with a current cell culture of a cell growth system. The cell growth data includes growth input parameter values indicative of a growth rate of the current cell culture. The method can further include identifying, using a first machine learning model, a prescriptive action to alter a yield of a target product of the current cell culture based on the cell growth data. The prescriptive action modifies a metabolism rate of the current cell culture. The method further includes performing at least one of displaying the identified prescriptive on a graphical user interface (GUI) and/or causing the cell growth system to perform the identified prescriptive action.

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