

## Design of Self-Balancing Bicycle Using Object State Detection in Co-Ordinate System

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**Abstract :** Since from long time two wheeled vehicle self-balancing has always been a back-breaking task for both human and robots. Leaning a bicycle driving is long time process and goes through building knowledge base for parameter decision making while balancing robots. In order to create this machine learning phase with embedded system the proposed system is designed. The system proposed aims to construct a bicycle automaton, power-driven by an electric motor, which could balance by itself and move along a specific path. This path could be wavy with bumps and varying widths. The key aim was to construct a cycle which self-balances itself by controlling its handle. In order to take a turn, the mass was transferred to the center. In order to maintain the stability, the bicycle bot automatically turned the handle and a turn. Some problems were faced by the team which were Speed, Steering mechanism through mass- distribution (leaning), Center of mass location and gyroscopic effect of its wheel. The idea proposed have potential applications in automation of transportation system and is most efficient.

**Keywords :** gyroscope-flywheel, accelerometer, servomotor-controller, self stability concept

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