AUTOBIKE SCOOTER EDITION

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THE PROJECT AIMS TO BUILD A SELF-BALANCING & AUTONOMOUS E-SCOOTER

Overview

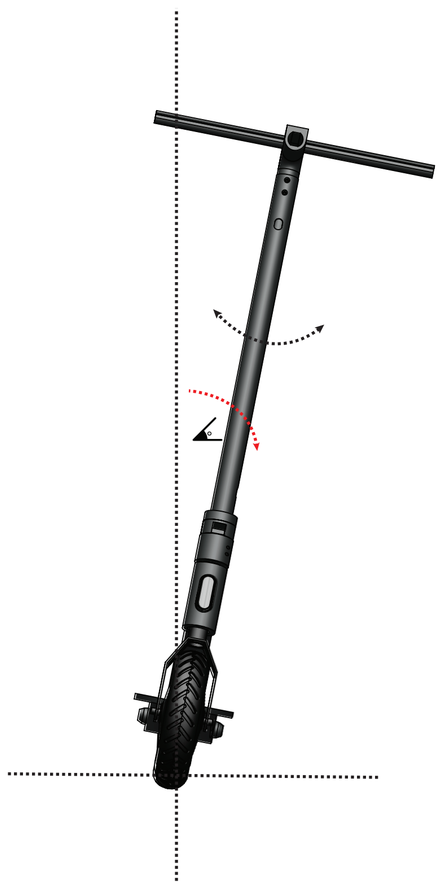
A collaborative research project to assist in the future of safety validation for autonomous driving vehicles.

Motivation

The Autobike project has in previous iterations produced several prototype autonomous bicycles.

The rise in popularity of e-scooters highlights the need for traffic-safety testing to include e-scooters.

A self-balancing, autonomous e-scooter would enable reliable and repeatable testing and safety validation of autonomous vehicles.



Method

- **Self-Balancing** using PID based steering control
- **Sensor Data** from IMU, GPS
- **Simulation** using MATLAB & SIMULINK
- **CAD modelling** in SOLIDWORKS
- **Software Control** using LabVIEW

Outcome

- **E-scooter** base from Xiaomi
- **Embedded System** via NI myRIO 1900
- **Motor Control** with
  - VESC 6 75V
  - ESCON 50/5