**Maximum Power Point Tracking in Wind Energy Conversion Systems using Machine Learning**

**Highlights**

* An energy efficient and feasible algorithm for maximum power point tracking in wind energy conversion systems.
* The algorithm is based on implementation of machine learning into perturb and observe to estimate an accurate maximum power point.
* Perturbation of this power point with the actual available power to avoid overfitting and to increase the estimation accuracy in further iterations.
* Efficiency of the proposed method increases under every iteration.
* An efficiency of 99.95% was obtained in the simulation.
* The main advantages of the proposed MPPT control method are faster convergence to the maximum power point, robustness, higher efficiency and its ease of implementation.
* The system is a modified algorithm of P&O and can be cascaded to the existing P&O equipment with convenient setup and resulting in better efficiency.