



Office of the Controller General of Patents, Designs & Trade Marks
Department of Industrial Policy & Promotion,
Ministry of Commerce & Industry,
Government of India



(12) PATENT APPLICATION PUBLICATION

(21) Application No.202331058605 A

(19) INDIA

(22) Date of filing of Application :31/08/2023

(43) Publication Date : 29/09/2023

(54) Title of the invention : Decision Tree based Pattern Classification employed to Power System Dynamic Security Assessment"

<p>(51) International classification :A61B 050000, G06F 215700, G06K 096200, H01L 216600, H02J 030000</p> <p>(86) International Application No :PCT// Filing Date :01/01/1900</p> <p>(87) International Publication No : NA</p> <p>(61) Patent of Addition to Application Number :NA Filing Date :NA</p> <p>(62) Divisional to Application Number :NA Filing Date :NA</p>	<p>(71)Name of Applicant : 1)SWAMI VIVEKANANDA UNIVERSITY Address of Applicant :Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, West Bengal – 700121, India. Barrackpore -----</p> <p>Name of Applicant : NA Address of Applicant : NA</p> <p>(72)Name of Inventor : 1)Dr. Rituparna Address of Applicant :SWAMI VIVEKANANDA UNIVERSITY Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, West Bengal – 700121, India. Barrackpore -----</p> <p>2)Mr. Abhishek Dhar Address of Applicant :SWAMI VIVEKANANDA UNIVERSITY Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, West Bengal – 700121, India. Barrackpore -----</p> <p>3)Mr. Saurabh Adhikari Address of Applicant :SWAMI VIVEKANANDA UNIVERSITY Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, West Bengal – 700121, India. Barrackpore -----</p> <p>4)Dr. Subhranil Som Address of Applicant :SWAMI VIVEKANANDA UNIVERSITY Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, West Bengal – 700121, India. Barrackpore -----</p>
---	--

(57) Abstract :

This paper presents an approach to power system dynamic security assessment" using decision tree classifier". A standard pattern recognition framework", has been followed in order to ensure that real-time implementation of the proposed framework is feasible. With the aim of recognizing the vulnerability" associated with various pre-contingency operational circumstances," the Security Classifier (SC) was created and trained with operational data obtained from developed computer model of the power system. The proposed SC was successfully tested on IEEE 57-bus benchmark system to recognize and classify wide variety of operating conditions based on their vulnerability to dynamic insecurity" post major contingencies.

No. of Pages : 14 No. of Claims : 5