

Manuscript ID : 00001-06600

Journal of Fuzzy Extension and Applications

Volume 2, Issue 1, January 2021, Pages 1-15, Page Count - 15



Source ID : 00000304

## New Plithogenic Sub Cognitive Maps Approach with Mediating Effects of Factors in COVID-19 Diagnostic Model

Nivetha Martin <sup>(1)\*</sup> R. Priya <sup>(2)</sup> Florentin Smarandache <sup>(3)</sup>

<sup>(1)</sup> Department of Mathematics, Arul Anandar College, Madurai, Tamilnadu, India.

<sup>(2)</sup> Department of Mathematics, P.K.N Arts and Science College, Vadagarai, Tamil Nadu, India.

<sup>(3)</sup> The University of New Mexico - Gallup, College Rd Gallup, NM 87301, United States.

\* Corresponding author

### Abstract

*The escalation of COVID-19 curves is high and the researchers worldwide are working on diagnostic models, in the way this article proposes COVID-19 diagnostic model using Plithogenic cognitive maps. This paper introduces the new concept of Plithogenic sub cognitive maps including the mediating effects of the factors. The thirteen study factors are categorized as grouping factors, parametric factors, risks factors and output factor. The effect of one factor over another is measured directly based on neutrosophic triangular representation of expert's opinion and indirectly by computing the mediating factor's effects. This new approach is more realistic in nature as it takes the mediating effects into consideration together with contradiction degree of the factors. The possibility of children, adult and old age with risk factors and parametric factors being infected by corona virus is determined by this diagnostic model.*

### Author Keywords

Plithogenic cognitive maps, Sub cognitive maps, Diagnostic model, COVID-19

**ISSN Print:** 2783-1442

**Source Type:** Journals

**Publication Language:** English

**Abbreviated Journal Title:** JFEA

**Publisher Name:** Ayandegan Institute of Higher Education

**Major Subject:** Physical Sciences

**Subject area:** Theoretical Computer Science

**ISSN Online:** 2717-3453

**Document Type:** Journal Article

**DOI:** <https://dx.doi.org/10.22105/jfea.2020.250164.1015>

**Access Type:** Open Access

**Resource Licence:** CC BY-NC

**Subject Area classification:** Mathematics

**Source:** SCOPEDATABASE