

(54) Title of the invention : IoT and Artificial Intelligence based detection and Prevention of Thyroid Disease on Hormone Level using Data Mining Techniques and Machine Learning for Health care Management

<p>(51) International classification :G06K0009620000, G06N0020000000, G06F0016350000, G06N0005000000, G06N0007000000</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)Dr.T.Kalpalatha Reddy Address of Applicant :Principal Sri Venkateswara Engineering College, Tirupathi, Karakambadi Road, Opposite to LIC Training Centre, Tirupathi 516507 ----- 2)Dr.N.Kurinjivendhan 3)Dr S G Prabhakaran 4)Dr. R. Vijayan 5)Dr. Sandip Haldar 6)Thilagavathi M 7)C.M.Mohana 8)M.Valarmathi 9)M.Baskar 10)Dr. Brijesh Sathian 11)Dr Nallam Krishnaiah Name of Applicant : NA Address of Applicant : NA (72)Name of Inventor : 1)Dr.T.Kalpalatha Reddy Address of Applicant :Principal Sri Venkateswara Engineering College, Tirupathi, Karakambadi Road, Opposite to LIC Training Centre, Tirupathi 516507 ----- 2)Dr.N.Kurinjivendhan Address of Applicant :Assistant Professor, Department of Computer Applications, Bishop Heber College (Autonomous), Tiruchirappalli - 620017, Tamil Nadu, India. ----- 3)Dr S G Prabhakaran Address of Applicant :Assistant. Professor and Head, Department of Biotechnology Vivekanandha Arts and Science College for Women, Veerachipalam, Sankari West, Salem District, Tamil nadu, India. ----- 4)Dr. R. Vijayan Address of Applicant :Assistant Professor PG & Research department in Biochemistry & Microbiology Vivekanandha College of Arts & Sciences for Women (Autonomous) Elayampalayam, Tiruchengode - TK, Namakkal Dt,Tamil Nadu - 637 205, India. ----- 5)Dr. Sandip Haldar Address of Applicant :Associate Professor BSHU (Physics) Asansol Engineering College Kanyapur, Asansol, west Bengal 713305, India. ----- 6)Thilagavathi M Address of Applicant :School of Information Technology and Engineering, Assistant Professor(Senior), Vellore Institute of Technology, Vellore, Tamil Nadu 632014, India. ----- 7)C.M.Mohana Address of Applicant :School of Computer Science and Engineering, Assistant Professor, Vellore Institute of Technology, Vellore, Tamil Nadu-632014, India. ----- 8)M.Valarmathi Address of Applicant :Assistant Professor & Head Vivekanandha Arts and Science College for Women. Veerachipalayam Sankari West Post Sankari Taluk, Pin: 637303. Salem (DT), Tamilnadu, India. ----- 9)M.Baskar Address of Applicant :Assistant Professor Department of COMPUTER SCIENCE and Applications Vivekanandha College for Women, Unjanai, TIRUCHENGODE Taluk Namakkal Dist. Pin 637 205. ----- 10)Dr. Brijesh Sathian Address of Applicant :Scientist, Geriatrics and Long term care Department, Rumailah Hospital, Hamad Medical Corporation, Doha, Qatar, P. O BOX 3050, Doha, Qatar ----- 11)Dr Nallam Krishnaiah Address of Applicant :Professor Department of IT, St. Martin’s Engineering College Dhulapally, Secunderabad Telangana, India. -----</p>
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(57) Abstract :
IoT and Artificial Intelligence based detection and Prevention of Thyroid Disease on Hormone Level using Data Mining Techniques and Machine Learning for Health care Management
ABSTRACT: Classification is a particularly challenging area of machine learning. According to a study, people in all types of businesses rely heavily on categorization as a major approach. This process is referred to as supervised learning. It derives categorization conclusions from a set of data. SVM, KNN, Nave Bayes, Decision Trees, and Random Forests were all used as techniques. Additionally, Random Forests and Logistic Regression were used in the analysis. It is written in the Python programming language and is used to do the analysis. The graph below illustrates the effectiveness of logistic regression and random forest in their respective tasks. Thyroid disease can now be discovered at a far lower cost than it is at the moment. Thyroid disease has increased in prevalence during the last few years. Hypothyroidism, hyperthyroidism, or thyroid cancer affects one in every eight women. According to numerous studies, roughly 30% of Romanians suffer from endemic goitre. Individuals who consume a low-calorie diet, take certain medications, or are under a great deal of stress have been known to have thyroid problems. Preventing these issues is significantly more important than curing them, as the majority of therapies require long-term medication or surgery to correct the issue. The two most common thyroid disorders, hyperthyroidism and hypothyroidism, are classified jointly in this study. The authors compared and contrasted the operational characteristics of Naive Bayes, Decision Trees, Multilayer Perceptrons, and Radial Basis Function Networks. All of the models discussed previously offer excellent results, however the Decision Tree model, which is a type of model, produces the highest classification rate. The classifier was built and evaluated on the machine learning repository at UC Irvine and on a Romanian data portal. Classification models were developed and evaluated in this work utilising the KNIME Analytics Platform and Weka, two data mining programmes.