

(54) Title of the invention : Artificial Intelligence based health care system to promote precision medicine for cancer using Gut microbiome, big data and machine learning

<p>(51) International classification :G06N 050000, G06N 200000, G06N 202000, G16H 201000, G16H 503000</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 :  <b>1)Augustin Santhiyagu I</b>  Address of Applicant :Assistant Professor, Department of Mechanical Engineering, M.A.M College of Engineering and Technology, M.A.M. College of Engineering, Trichy - Chennai Trunk Road, Siruganur, Tiruchirappalli - 621 105, Tamil Nadu, India. -----  <b>2)Hithesh C H</b>  <b>3)Diksha Sharma</b>  <b>4)Dr K Santarao</b>  <b>5)Dr. Ashish Gupta</b>  <b>6)Mr YOGESHKUMAR JETHABHAI PATEL</b>  <b>7)Vinothkumar K</b>  <b>8)Prof. Chandrabhan Raghunath Ghuge</b>  <b>9)Mrs. Tejal Sopan Sonawane</b>  <b>10)Namrata</b>  Name of Applicant : NA  Address of Applicant : NA  (72)Name of Inventor :  <b>1)Augustin Santhiyagu I</b>  Address of Applicant :Assistant Professor, Department of Mechanical Engineering, M.A.M College of Engineering and Technology, M.A.M. College of Engineering, Trichy - Chennai Trunk Road, Siruganur, Tiruchirappalli - 621 105, Tamil Nadu, India. -----  <b>2)Hithesh C H</b>  Address of Applicant :Graduate Engineer Trainee, Software Development Tecnotree Convergence Private Limited 6th Floor No, 4, Old Madras Rd, Binnamangala, Binna Mangala, Indiranagar, Bengaluru, Karnataka 560038 India -----  <b>3)Diksha Sharma</b>  Address of Applicant :Assistant Professor KC Institute of Pharmaceutical Sciences, Pandoga, Una, Himachal Pradesh, India -----  <b>4)Dr K Santarao</b>  Address of Applicant :Associate Professor Department of Mechanical Engineering GMR INSTITUTE OF TECHNOLOGY GMR NAGAR, RAJAM - 532127 Vizianagaram Andhra Pradesh India -----  <b>5)Dr. Ashish Gupta</b>  Address of Applicant :Assistant Professor (Senior), School of Electronics Engineering, VIT-AP Amaravati, Andhra Pradesh Amaravati, Andhra Pradesh, India. -----  <b>6)Mr YOGESHKUMAR JETHABHAI PATEL</b>  Address of Applicant :Assistant Professor, Faculty Of Computer Science, Shri C.J. Patel College Of Computer Studies, Sankalchand Patel University, Mehsana, Gujarat, India -----  <b>7)Vinothkumar K</b>  Address of Applicant :Assistant Professor, Department of ECE, PSNA College Of Engineering And Technology, PSNACET, Kothandaraman Nagar, Dindigul - 624622 Tamilnadu , India ----  <b>8)Prof. Chandrabhan Raghunath Ghuge</b>  Address of Applicant :Sr. Lecturer, Computer Engineering department, Guru Gobind Singh Polytechnic Nashik, Khalsa Education Compex Guru Gobind Singh marg , Indira Nagar Annex Nashik 422009 Maharashtra, India -----  <b>9)Mrs. Tejal Sopan Sonawane</b>  Address of Applicant :Lecturer, Department of Computer Eng. Guru Gobind Singh Polytechnic Nashik, Khalsa Education Compex Guru Gobind Singh marg , Indira Nagar Annex Nashik 422009 Maharashtra , India. -----  <b>10)Namrata</b>  Address of Applicant :Assistant Professor, Pharmacy Department, KC Institute of Pharmaceutical Sciences, Pandoga, Una, Himachal Pradesh, India -----</p>
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(57) Abstract : Artificial Intelligence based health care system to promote precision medicine for cancer using Gut microbiome, big data and machine learning Abstract: Since it is known that specific microbial signatures can induce cancer and alter the efficacy, safety, and tolerability of treatments, the gut microbiome has been linked in numerous ways to cancer. Massive databases of increasing size and complexity are being created despite the fact that the majority of research is still in its infancy. This is due to the fact that the 'omics' technology used to study the microbiome is continuously evolving. Due to the differing degrees of complexity of the accessible data, we are unable to evaluate the majority of it. This makes it harder to utilize these new tools to their maximum potential. We discuss the importance, potential, and limitations of a machine learning-driven strategy for analyzing vast amounts of complex health-care data in the era of big data. The function of intestinal bacteria in the development of cancer is also briefly discussed. We also address how big data based on microbiomes could be utilized in cancer therapy using precision medicine.

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