

PATIENT CASE SIMILARITY

A PROJECT REPORT

Submitted by,

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Under the guidance of,
Dr. Swati Sharma

in partial fulfillment for the award of the degree

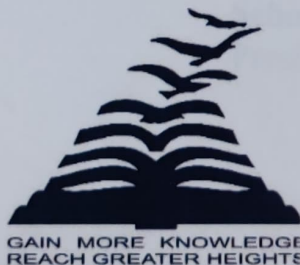
of

BACHELOR OF TECHNOLOGY

IN

**COMPUTER SCIENCE AND ENGINEERING
(Artificial Intelligence and Machine Learning)**

At



PRESIDENCY UNIVERSITY

BENGALURU

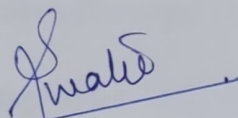
JANUARY 2024

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CERTIFICATE

This is to certify that the Project report “PATIENT CASE SIMILARITY” being submitted by “ANSHITA, M LAVANYA, K CHAITHANYA, DINNEPATI SAHITHYA” bearing roll number(s) “20201CAI0200, 20201CAI0182, 20201CAI0183, 20201CAI0202” in partial fulfilment of requirement for the award of degree of **Bachelor of Technology** in **Computer Science and Engineering (Artificial Intelligence and Machine Learning)** is a bonafide work carried out under my supervision.



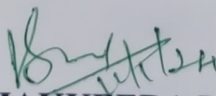
Dr. Swati Sharma
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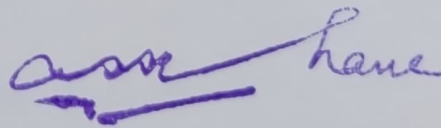
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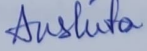
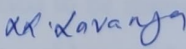
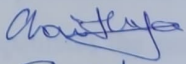
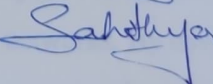
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DECLARATION

We hereby declare that the work, which is being presented in the project report entitled **PATIENT CASE SIMILARITY** in partial fulfilment for the award of Degree of **Bachelor of Technology in Computer Science and Engineering (Artificial Intelligence and Machine Learning)**, is a record of our own investigations carried under the guidance of **Dr. Swati Sharma, Associate Professor, School of Computer Science and Engineering, Presidency University, Bengaluru.**

We have not submitted the matter presented in this report anywhere for the award of any other Degree.

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ABSTRACT

The pursuit of tailored care and precision has taken center stage in the ever-changing field of modern healthcare, which has led to an investigation into novel approaches to patient case analysis. Using cutting-edge Deep Neural Networks (DNNs), this research effort aims to meet this necessity by conducting a thorough investigation into patient case similarity. Known as "Synergistic Precision," our methodology explores the complex interactions between state-of-the-art computational methods and healthcare analytics with the goal of redefining how patient situations are understood.

Our study is based on the realization that conventional approaches frequently fail to capture the nuanced details that set apart individual patient cases. We suggest a paradigm change to get over this restriction by using DNNs to delve deeply into patient case databases. "Deep dive" describes our dedication to a thorough investigation, using neural network capabilities to sift through the complex layers of medical data and reveal patterns that were previously hidden.

Our approach is centered around the use of sophisticated neural network topologies for patient case similarity analysis. These systems use the breadth and depth of patient data to identify complicated relationships. Our selected DNNs work in concert with the rich tapestry of medical data, which holds the potential to reveal latent relationships that are frequently missed by more conventional analytical techniques. We want to demonstrate the effectiveness and consistency of our method in identifying patient case similarities with previously unachieved accuracy through a series of thorough trials and validations.

The "Synergistic Precision" idea highlights the comprehensive influence of our research on healthcare professionals and the wider customized medicine industry, going beyond the technical details. Clinical decision support systems are expected to be improved, which would provide medical staff members a better grasp of patient problems and enable more customized and informed treatment plans. This abstract encapsulates the essence of our research project on patient case similarity using deep neural networks. By navigating the uncharted territory at the intersection of advanced computational techniques and healthcare analytics.

ACKNOWLEDGEMENT

First of all, we indebted to the **GOD ALMIGHTY** for giving me an opportunity to excel in our efforts to complete this project on time.

We express our sincere thanks to our respected dean **Dr. Md. Sameeruddin Khan**, Dean, School of Computer Science and Engineering and Information Science, Presidency University for getting us permission to undergo the project.

We record our heartfelt gratitude to our beloved Associate Deans **Dr. C. Kalaianarasan** and **Dr. Shakkeera L**, School of Computer Science and Engineering and Information Science, Presidency University for rendering timely help for the successful completion of this project.

We are greatly indebted to our guide **Dr. Swati Sharma**, **Associate Professor** School of Computer Science and Engineering, Presidency University for her inspirational guidance, valuable suggestions and providing us a chance to express our technical capabilities in every respect for the completion of the project work.

We would like to convey our gratitude and heartfelt thanks to the University Project-II Coordinators **Dr. Sanjeev P Kaulgud**, **Dr. Mrutyunjaya MS** and also the department Project Coordinators **Dr. Mulari Paremeswaran**.

We thank our family and friends for the strong support and inspiration they have provided us in bringing out this project.

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