



THE ASSAM  
ROYAL GLOBAL UNIVERSITY  
— GUWAHATI —

# CRITERION 1

## CURRICULAR ASPECTS

METRIC NO.  
1.3.3

# B. Tech Computer Science and Engineering

Field Work / Research Project / Internship



Guwahati, Assam, India  
4P6F+QH7, Royal Path, Betkuchi, AHOM GAON, Guwahati, Assam  
781040, India  
Lat 26.112206°  
Long 91.72404°  
29/12/22 10:22 AM GMT +05:30

Evaluated.

**“AI CHATBOT FOR COLLEGE MANAGEMENT SYSTEM”**

**A project report submitted**

**in partial fulfillment for the award of degree of**

**Bachelor of Technology**

**In**

**Computer Science and Engineering**

**Under**

**The Assam Royal Global University**



**Submitted by-**  
**Aditya Kar (192025001)**  
**Kajal Jain (192025012)**

**Under the guidance of:**

**Ms. GITIMONI TALUKDAR**

**Assistant Professor**

**Department of Computer Science and Engineering**

**Royal School of Engineering & Technology**

**Royal Global University, 2022, Guwahati – 781035**

**(December 2022)**

*Forwarded*  
*Talukdar*

HOD/Coordinator  
Department of Computer Science & Engineering  
Royal School of Engineering & Technology  
The Assam Royal Global University  
Belauchi, NH 37, Guwahati 781035



**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING,  
ROYAL SCHOOL OF ENGINEERING & TECHNOLOGY**

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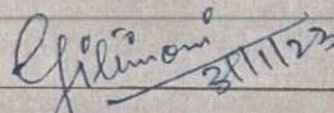
**CERTIFICATE OF APPROVAL**

This is to certify that the project report entitled "AI CHATBOT FOR COLLEGE MANAGEMENT SYSTEM" submitted by Aditya Kar (Roll No:192025001) and Kajal Jain (Roll No:192025012) of 7th semester, B.Tech, Computer Science and Engineering Department, The Assam Royal Global University, Guwahati in partial fulfillment for the award of the degree of B.Tech in Computer Science and Engineering is a bonafide record of project work carried out by her under my supervision. The contents of this report, in full or in parts, have not been submitted to any other Institution or University for the award of any degree or diploma.

Date: 31.01.2023

Project Guide:

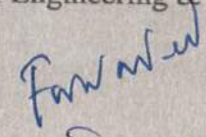
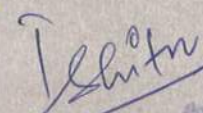
Place: Guwahati

  
31/1/23

Ms. Gitimoni Talukdar

Assistant Professor, Department of  
Computer Science and Engineering

Royal School of Engineering &  
Technology

HOD/Coordinator  
Department of Computer Science & Engineering  
Royal School of Engineering & Technology  
The Assam Royal Global University  
Bokuchi, NH 37, Guwahati 781035



**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING  
ROYAL SCHOOL OF ENGINEERING & TECHNOLOGY**

**FORWARDING CERTIFICATE**

This is to certify that the project work entitled "**AI CHATBOT FOR COLLEGE MANAGEMENT SYSTEM**" is hereby approved as a bonafide work of study as an engineering subject, carried out by the students- Aditya Kar (Roll No:192025001) and Kajal Jain (Roll No:192025012) of 7th Semester, B.Tech, Computer Science and Engineering Department under the guidance of Ms. Gitimoni Talukdar, Assistant Professor, Department of Computer Science and Engineering, The Assam Royal Global University. The work in the project is a genuine work carried out by the students as a prerequisite to the degree for which it has been submitted.

Date: 31-01-2023

Place: Guwahati

Mrs. Ishita Chakrabarti  
Assistant Professor  
Department of Computer Science & Engineering  
Engineering  
The Assam Royal Global University  
Royal School of Engineering & Technology  
Guwahati, NH 37, Guwahati



**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING,  
ROYAL SCHOOL OF ENGINEERING & TECHNOLOGY**

**Declaration by the Candidate**

We certify that this project entitled "AI CHATBOT FOR COLLEGE MANAGEMENT SYSTEM", a perquisite towards partial fulfilment for the award of B.Tech degree in Computer Science and Engineering, Royal School of Engineering & Technology, Guwahati contains no materials previously published or written by another person, except where due reference has made in the text as in an accurate record of our work carried under the guidance and supervision of Ms. Gitimoni Talukdar, Assistant Professor, Department of Computer Science and Engineering.

Date: 31.01.2023

Place: Guwahati

*Aditya Kar*

**SIGNATURE**

Aditya Kar

(Roll No: 192025001)

*Kajal Jain*

**SIGNATURE**

Kajal Jain

(Roll No: 192025012)

*Forwarded  
Shruti*

HOD/Coordinator  
Department of Computer Science & Engineering  
Royal School of Engineering & Technology  
The Assam Royal Global University  
Rajkuchi, NH 37, Guwahati 781035

## ACKNOWLEDGEMENT

We would like to extend our gratitude and our sincere thanks to our honourable, esteemed guide, Ms. Gitimoni Talukdar, Assistant Professor., Department of Computer Science and Engineering, Royal School of Engineering and Technology. She is not only a helpful teacher with deep vision but also most importantly a kind person. We sincerely thank for her exemplary guidance and encouragement. Her trust and support inspired us in the most important moments of making right decisions and we are glad to work with her.

We would like to thank all our other faculty members for their guidance and ideas that helped us make this project successful. This project is by far the most significant accomplishment in our life, and it would be impossible without the people who supported us and believed in us.

We would like to thank all our friends for all the thoughtful and mind stimulating discussions that we had, which made us think beyond the obvious. Last but not the least, we would like to thank our parents, who taught us the value of hard work.

*Ambarish*

*Shirish*

HOD/Coordinator  
Department of Computer Science & Engineering  
Royal School of Engineering & Technology  
The Assam Royal Global University  
Betkuchi, NH 37, Guwahati 781035

## ABSTRACT

An "AI chatbot for college management system" can provide a range of benefits for both students and administrators. For students, the chatbot can serve as a virtual assistant, answering common questions and providing information on topics such as class schedules, financial aid, and campus resources. For administrators, the chatbot can help streamline processes such as course registration and scheduling, freeing up staff time for more complex tasks. Additionally, an AI chatbot can be available 24/7 to provide assistance, making it a convenient resource for students and administrators alike. Overall, an AI chatbot for college management system has the potential to improve the efficiency and effectiveness of college operations, while also providing a useful and convenient resource for students.

The rise of AI chatbots has been a major milestone in the evolution of digital services. Chatbots are now being used as virtual assistants and customer service representatives, providing a range of benefits for users in a variety of industries. One such industry is higher education, which could benefit from an AI chatbot for college management system. The advent of AI has changed the way we think about technology. The idea that machines can become intelligent and self-aware is becoming increasingly common, with many predicting that we will soon see machines take on more responsibilities in everyday life. In fact, many companies are already using AI for their products and services, but the scope of this technology is only now beginning to be realized.

*Forwarded*  
*Shir*

HOD/Coordinator  
Department of Computer Science & Engineering  
Royal School of Engineering & Technology  
The Assam Royal Global University  
Botkuchi, NH 37, Guwahati 781035

Evaluated.



ROYAL GLOBAL UNIVERSITY  
GUWAHATI

**“Detection of degenerative neurological disorder”**

A Project Report submitted  
in partial fulfillment of the requirements for the degree of  
**Bachelor in Technology in Computer Science**

Submitted by:

**Riz Raajkonwar (192025020)**

**Sabyasachi Nandy (192025022)**

**B.Tech CSE, 8th Semester**

**Royal School of Engineering and Technology**

Under the guidance of

**Dr. Anupam Das**

**Associate Professor**

Royal School of Engineering and  
Technology

**THE ASSAM ROYAL GLOBAL UNIVERSITY**

**GUWAHATI: 781035**

**Session: 2019-2023**

*Forwarded*  
*[Signature]*

**HOD/Coordinator**  
Department of Computer Science & Engineering  
Royal School of Engineering & Technology  
The Assam Royal Global University  
Betkuchi, NH 37, Guwahati 781035





ROYAL GLOBAL UNIVERSITY  
GUWAHATI

### CERTIFICATE OF APPROVAL

It is certified that the work contained in the report entitled "Detection of degenerative neurological disorder" by Sabyasachi Nandy bearing Roll No 192025022 and Riz Raajkonwar bearing Roll No 192025020 of Engineering, 8 th semester under the Bachelor of Technology, Royal School of Engineering, The Assam Royal Global University, Guwahati, Assam, for the fulfillment of the degree of Bachelor of Technology has been carried out under my supervision and that work has not been submitted elsewhere for a degree.

Project Guide:

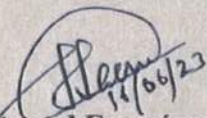
  
Dr. Anupam Das

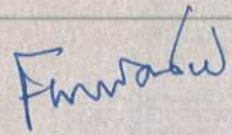
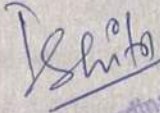
(Associate Professor)

Department of Computer Science & Engineering

Date: 16.06.2023

Place: Guwahati

  
External Examiner  
(Full Signature)

  
  
HOD/Coordinator  
Department of Computer Science & Engineering  
Royal School of Engineering & Technology  
The Assam Royal Global University  
Betkuchi, NH 37, Guwahati 781035



ROYAL GLOBAL UNIVERSITY  
GUWAHATI

### FORWARDING CERTIFICATE

It is certified that the work contained in the report entitled “**Detection of degenerative neurological disorder**” by **Sabyasachi Nandy** bearing Roll No 192025022 and **Riz Raajkonwar** bearing Roll No 192025020 of **engineering, 8 th semester** under the **Bachelor of Technology, Royal School of Engineering and Technology**, under the guidance of **Dr. Anupam Das, Associate Professor** has been presented in a manner satisfactory to permit its acceptance as a prerequisite to the degree for which has been submitted.

Date: 16/6/23

Place: Guwahati

Dr. Ishita Chakraborty,

Associate Professor

Coordinator, Department

HOD/Coordinator  
Department of Computer Science & Engineering  
Royal School of Engineering & Technology  
The Assam Royal Global University  
Betkuchi, NH 37, Guwahati 781035

## DECLARATION

We, **Sabyasachi Nandy** bearing the Roll No 192025022 and **Riz Raajkonwar** bearing the Roll No 192025020 hereby declare that this project work entitled "**Detection of degenerative neurological disorder**" was carried out by us under the guidance of **Dr. Anupam Das, Associate Professor**. This project work is submitted during the academic session of 2019-2023. This work or no part of it has been submitted elsewhere for any other purpose till date.

**Date:** 16.06.2023

**Place:** Guwahati

**Signature**

*Sabyasachi Nandy*

**Sabyasachi Nandy**

**Roll No. 192025022**

*Riz Raajkonwar*

**Riz Raajkonwar**

**Roll No. 192025020**

*Forwarded  
18/06/23*

**FODICoordinator**  
Department of Computer Science & Engineering  
Royal School of Engineering & Technology  
The Assam Royal Global University  
Betkuchi, NH 37, Guwahati 781035

## ACKNOWLEDGEMENT

We take the opportunity to express our sincere gratitude to all those who supported us throughout this project work. We are thankful for their aspiring guidance, invaluable constructive criticism and friendly advice during the project work.

We convey our special thanks to Dr. Das for his support and guidance at the university during our project/dissertation work.

Our special thanks also go to our Faculty Guide and other faculty members for their kind support for the successful completion of our project.

Thank you

*Funkles*

*Tshita*

HOD/Coordinator  
Department of Computer Science & Engineering  
Royal School of Engineering & Technology  
The Assam Royal Global University  
Botkuchi, NH 37, Guwahati 781035

## ABSTRACT

In this project we attempt to implement machine learning approach to detect Parkinson's disease. Machine learning is effectively implemented in this predicament. The objective is to detect the severity of this disease in order to make more informed and accurate decisions. We propose a predictive system that integrates mathematical functions, machine learning, and other external factors for the purpose of achieving better accuracy.

SVM is a popular supervised machine learning algorithm that can be used for classification and regression tasks. This is important in our case because it helps in predicting categorical outcomes based on input features.

**Keywords:** SVM, machine learning, parkinson's disease prediction, XGBoost

*Amrinder*

*Ishtiaq*

HOD/Coordinator  
Department of Computer Science & Engineering  
Royal School of Engineering & Tech  
The Assam Royal Global Unive  
Batkuchi, NH 37, Guwahati 781012

Evaluated

**A study on  
“Image Classification on Fashion MNIST using Quantum Computing”**

**A Report Submitted  
in partial fulfilment for the award of degree of  
*Bachelor of Technology***

**In  
Computer Science and Engineering  
Under  
The Assam Royal Global University**



**Submitted By- Hritik Kaushik(182025021)  
Rizwan Ansari(182025035)**

**Under the guidance of**

**Ms. Afsana Laskar  
(Lecturer)**

**Department of Computer Science and Engineering  
Royal School of Engineering & Technology  
Guwahati-781035**

**July- 2022**

*fantasia*

*Shruti*

**WESN Coordinator  
Department of Computer Science & Engineering  
Royal School of Engineering & Techno-  
The Assam Royal Global Univers-  
Betkuchi, NH 37, Guwahati 7810**

**A study on**  
**“Image Classification on Fashion MNIST using Quantum Computing”**

A Report Submitted in partial fulfilment for the award of degree of Bachelor of  
Technology in Computer Science and Engineering

Offered by  
ROYAL SCHOOL OF ENGINEERING AND TECHNOLOGY

Submitted By-

Hritik Kaushik(182025021)

Rizwan Ansari(182025035)

*Forwarded*  
*Rizwan*

Academic project guide:

Ms. Afsana Laskar  
Lecturer

Department of Computer Science and Engineering  
Royal School of Engineering & Technology

HOD/Coordinator  
Department of Computer Science & Engineering  
Royal School of Engineering & Technology  
The Assam Royal Global University  
Betkuchi, NH 37, Guwahati 781035



**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING ROYAL  
SCHOOL OF ENGINEERING & TECHNOLOGY**

**CERTIFICATE OF APPROVAL**

This is to certify that the project report entitled "**Image Classification on Fashion MNIST using Quantum Computing**" submitted by Rizwan Ansari(Roll No: 182025035) and Hritik Kaushik(Roll No: 182025021) of 8<sup>th</sup> Semester, B.Tech, Computer Science and Engineering Department, The Assam Royal Global University, Guwahati in partial fulfilment for the award of the degree of B. Tech in Computer Science and Engineering is a bonafide record of project work carried out by him/her under my supervision. The contents of this report, in full or in parts, have not been submitted to any other Institution or University for the award of any degree or diploma.

**Date:** 30/7/2022

**Project Guide:**

**Place:** Guwahati

**Ms. Afsana Laskar**  
Lecturer

HOD/Coordinator  
Department of Computer Science & Engineering  
Royal School of Engineering & Technology  
The Assam Royal Global University  
Bokuchi, IIP 37, Guwahati 781037  
Department of Computer Science and Engineering  
Royal School of Engineering & Technology





DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING ROYAL  
SCHOOL OF ENGINEERING & TECHNOLOGY

FORWARDING CERTIFICATE

This is to certify that the project work entitled "**Image Classification on Fashion MNIST using Quantum Computing**" is hereby approved as a bonafide work of study as an engineering subject, carried out by the students - Rizwan Ansari(Roll No: 182025035) and Hritik Kaushik(Roll No: 182025021) of 8<sup>th</sup> Semester, B.Tech, Computer Science and Engineering Department under the guidance of Afsana Laskar, Lecturer, Computer Science and Engineering Department, The Assam Royal Global University. The work in the project is a genuine work carried out by the students as a prerequisite to the degree for which it has been submitted.

Date: 1/8/22

Place: Guwahati

*Apeke*  
1/8/2022

Dr. Aniruddha Deka

Associate Professor  
Department of Computer Science & Engineering  
Royal School of Engineering & Technology  
The Assam Royal Global University

Department of Computer Science and Engineering,  
Royal School of Engineering & Technology  
Batkuchi, NH 37, Guwahati 781035



**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING ROYAL  
SCHOOL OF ENGINEERING & TECHNOLOGY**

---

*Declaration by the Candidate*

We certify that this project entitled "**Image Classification on Fashion MNIST using Quantum Computing**", a requisite towards partial fulfilment for the award of B.Tech degree in Computer Science and Engineering, Royal School of Engineering & Technology, Guwahati contains no materials previously published or written by another person, except where due reference has made in the text as in an accurate record of our work carried under the guidance and supervision of Afsana Laskar, Lecturer, Department of Computer Science and Engineering.

HOD/Coordinator  
Department of Computer Science & Engineering  
Royal School of Engineering & Technology  
The Assam Royal Global University  
Botkuchi, NH 37, Guwahati 781035

Date- 30/7/22

Rizwan Ansari

(Roll No: 182025035)

Hritik Kaushik

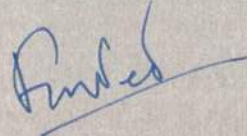
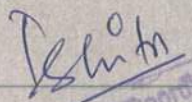
(Roll No: 182025021)

## ACKNOWLEDGEMENT

We would like to extend our gratitude and our sincere thanks to our honourable, esteemed guide, Ms. Afsana Laskar, Lecturer, Computer Science and Engineering, Royal School of Engineering and Technology. She is not only a helpful teacher with deep vision but also most importantly a kind person. We sincerely thank for her exemplary guidance and encouragement. Her trust and support inspired us in the most important moments of making right decisions and we are glad to work with her.

We would like to thank all our other faculty members for their guidance and ideas that helped us make this project successful. This project is by far the most significant accomplishment in our life and it would be impossible without the people who supported us and believed in us.

We would like to thank all our friends for all the thoughtful and mind stimulating discussions that we had, which made us think beyond the obvious. Last but not the least, we would like to thank our parents, who taught us the value of hard work.

  
  
HOD/Coordinator  
Department of Computer Science & Engineering  
Royal School of Engineering & Technology  
The Assam Royal Global University  
Betkuchi, NH 37, Guwahati 781035

## ABSTRACT

Image Classification is a fundamental task that attempts to comprehend an entire image as a whole. The goal is to classify the image by assigning it to a specific label. Typically, Image Classification refers to images in which only one object appears and is analysed and it refers to the labelling of images into one of a number of predefined classes.

Image classification can be done using some statistical machine learning classifiers like Support Vector Machine and Decision Tree and then move on to deep learning architectures like Convolutional Neural Networks (CNN), which usually involves the classical data and computation.

In this project, we propose to classify images using Quantum Neural Network (QNN) that uses quantum data and operates on quantum computing. Most Quantum neural networks are developed as feed-forward networks. Similar to their classical counterparts, this structure intakes input from one layer of qubits, and passes that input onto another layer of qubits. The layers in QNN have the same flow as in CNN but instead of a classical data network, here we have a quantum circuit that operates on various quantum logic gates.

We further analyse the proposed QNN model and we look for the efficiency and accuracy of model.

*Handwritten signature*  
Ishtiaq

**KODIC Coordinator**  
Department of Computer Science & Engineering  
Royal School of Engineering & Technology  
The Assam Royal Global University  
Betkuchi, NH 37, Guwahati 781035

Evaluated

**A Project Report on  
“Speech Based Endangered Language preservation, Analysis and  
Application – BODO Language”**

**A Report Submitted in  
Fulfillment for the degree of  
*Bachelor of technology*  
in  
Computer Science and Engineering  
Under  
The Assam Royal Global University**



**ROYAL GLOBAL UNIVERSITY**  
GUWAHATI

**Submitted by  
Abhik Boruah (182025002)  
Bijit Kalita (182025011)**

*Handwritten signature*

**Under the guidance of  
Prof. (Dr.) Anupam Das  
Associate Professor ,  
Department of Computer Science and Engineering  
Royal School of Engineering and Technology  
Guwahati-781035  
JULY-2022**

**HOD/Coordinator**  
Department of Computer Science & Engineering  
Royal School of Engineering & Technology  
The Assam Royal Global University  
Betkuchi, NH 37, Guwahati 781035

**A Project Report on**  
**“Speech Based Endangered Language preservation, Analysis and**  
**Application – BODO Language”**

**A Report Submitted in**  
**Fulfillment for the degree of**  
***Bachelor of technology***  
**in**  
**Computer Science and Engineering**  
**Under**  
**The Assam Royal Global University**

**Submitted by**  
**Abhik Boruah (182025002)**  
**Bijit Kalita (182025011)**

**Under the guidance of**  
**Prof. (Dr.) Anupam Das**  
**Associate Professor ,**  
**Department of Computer Science and Engineering**  
**Royal School of Engineering and Technology**  
**Guwahati-781035**  
**JULY-2022**

*Abhik Boruah*  
*Bijit Kalita*

**HOD/Coordinator**  
**Department of Computer Science & Engineering**  
**Royal School of Engineering & Technology**  
**The Assam Royal Global University**  
**Betkuchi, NH 37, Guwahati 781035**



ROYAL GLOBAL UNIVERSITY  
GUWAHATI

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING  
ROYAL SCHOOL OF ENGINEERING & TECHNOLOGY

**FORWARDING CERTIFICATE**

This is to certify that the project entitled "Speech Based Endangered Language preservation, Analysis and Application – BODO Language" is hereby approved as a bonafide work of study as an engineering subject, carried out by the students:

Abhik Boruah (182025002)  
Bijit Kalita (182025011)

of 8<sup>th</sup> semester, B. Tech Computer Science and Engineering Department under the guidance of Dr. Anupam Das (Asst. Professor, CSE) and presented in a manner satisfactory to warrant its acceptance as a prerequisite to the degree for which it has been submitted.

Date: 01.08.2022

Place: Guwahati

*Aditya*  
*1/8/22*  
HOD/Coordinator  
Department of Computer Science & Engineering  
Royal School of Engineering & Technology  
The Assam Royal Global University  
Berkuchi, Guwahati 781035  
Dr. Aniruddha Deka  
Associate Professor & H.O.D.,

Department of Computer Science and Engineering  
Royal School of Engineering & Technology, RSET

Guwahati-781035



ROYAL GLOBAL UNIVERSITY  
GUWAHATI

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING  
ROYAL SCHOOL OF ENGINEERING & TECHNOLOGY

---

**CERTIFICATE**

It is certified that the work contained in the report entitled "Speech Based Endangered Language preservation, Analysis and Application – BODO Language" by Abhik Boruah, Roll No. :182025002 and Bijit Kalita, Roll No. : 182025011, 8<sup>th</sup>semester B. Tech students in the Department of Computer Science and Engineering, Royal School of Engineering and Technology, RSET, Guwahati, Assam for the partial fulfilment of the degree of Bachelor of Technology under The Assam Royal Global University, Guwahati has been carried out under my supervision and that work has not been submitted elsewhere for a degree.

---

**Supervisor**  
(Dr. Anupam Das)  
Associate Professor,  
Department of CSE,  
RSET, RGU





ROYAL GLOBAL UNIVERSITY  
GUWAHATI

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING  
ROYAL SCHOOL OF ENGINEERING & TECHNOLOGY

### DECLARATION

We hereby declare that the project work entitled "Speech Based Endangered Language preservation, analysis and Application – BODO Language" submitted to the Royal School of Engineering and Technology, is an original work done by us under the guidance of Dr. Anupam Das , for partial fulfilment of the requirements for the degree of Bachelor of Computer Science & Engineering of The Assam Royal Global University.

*Furkan*

*Ishita*

*Abhik Boruah*  
Abhik Boruah  
(182025002)

*Project Coordinator*  
Department of Computer Science & Engineering  
Royal School of Engineering & Technology  
The Assam Royal Global University  
Guwahati

*Bijit Kalita*  
Bijit Kalita  
(182025011)

Evaluated.

PROJECT REPORT ON  
**FAKE NEWS DETECTION USING MACHINE LEARNING**

A Report submitted in partial fulfilment of the requirements for the degree of  
Bachelor of Technology in Computer Science and Engineering

Offered by

Royal School of Engineering and Technology

Submitted by:

Piyush Kumar

Registration No.: 1190110

Roll No.: 192025018

Anurag Mahato

Registration No.: 1180090

Roll No.: 182025006

Academic project guide:

Mr. Spandan Kumar Barthakur

Assistant Professor,

Department of Computer Science and Engineering

Royal School of Engineering and Technology

## DECLARATION

We certify that this Final Semester Project Report entitled 'Fake News Detection using Machine Learning' is a bona fide project work undertaken by us, during the period of September 2022 to December 2022, as partial fulfilment of the requirements of the degree of Bachelor of Technology in Computer Science and Engineering of The Assam Royal Global University, Guwahati.

Further, we declare that this report has not been submitted by us elsewhere for the award of any degree/diploma/certificate and is not linked to any other qualification.

Date: 30/01/2023

*Handwritten signature*

*Handwritten signature*

HOD/Coordinator  
Department of Computer Science & Engineering  
Royal School of Engineering & Technology  
The Assam Royal Global University  
Betkuchi, NH 37, Guwahati 781035

*Piyush Kumar*

Piyush Kumar

Roll No.: 192025018

Registration No.: 1190110

*Anurag Mahato*

Anurag Mahato

Roll No.: 182025006

Registration No.: 1180090

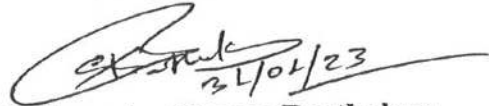
## CERTIFICATE OF APPROVAL

It is certified that the work contained in the report entitled “Fake News Detection using Machine Learning” submitted by Piyush Kumar (Roll no. 192025018) and Anurag Mahato (Roll no. 182025006), students of 7<sup>th</sup> semester of Bachelor of Technology in the department of Computer Science and Engineering, Royal School of Engineering and Technology, Guwahati, Assam for the partial fulfilment of the degree of Bachelor of Technology under The Assam Royal Global University, Guwahati has been carried out under my supervision and that work has not been submitted elsewhere for a degree.

Date: 31.01.2023

Place: Guwahati

Project Guide



Mr. Spandan Kumar Barthakur

Assistant Professor,

Department of Computer Science and  
Engineering

Royal School of Engineering and Technology



HOD/Coordinator  
Department of Computer Science & Engineering  
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Betkuchi, NH 37, Guwahati 781035

## FORWARDING CERTIFICATE

This is to certify that the project work entitled “**Fake News Detection using Machine Learning**” is hereby approved as a bona fide work of study as an engineering subject, carried out by the students – Piyush Kumar, Roll no.: 192025018 and Anurag Mahato, Roll no.: 182025006, of 7<sup>th</sup> Semester, Bachelor of Technology, Computer Science and Engineering Department under the guidance of Mr. Spandan Kumar Barthakur, Assistant Professor, Computer Science and Engineering Department, The Assam Royal Global University.

The work in the project is a genuine work carried out by the students as a pre-requisite to the degree for which it has been submitted.

Furled

Ishita

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Date: 31/1/23

Place: Guwahati

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## ACKNOWLEDGEMENT

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I convey my special thanks to our faculty guide, Mr. Spandan Kr. Barthakur for his support and guidance during my project work.

I would like to thank all other faculty members for their guidance and ideas that helped in the success of this project.

Thank you.

*Spandan*

*Spandan*

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## ABSTRACT

With the recent social media boom, the spread of fake news has become a great concern for everybody. It has been used to manipulate public opinion and influence various events. It is becoming increasingly difficult to determine which news is real and which is fake.

It is impossible to accurately determine whether a news story is true or false. Various machine learning methods have been used to separate real news from fake news. In this study, we tried to accomplish that using a set of machine learning models, of which XG Boost model with hyper parameter tuning gave the best results.

*Pratik*

*Shubh*

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Evaluated.



ROYAL GLOBAL UNIVERSITY  
GUWAHATI

**SYNTHETIC DATA GENERATION USING GENERATIVE  
ADVERSARIAL NETWORKS**

A Project Report submitted  
in partial fulfillment of the requirements for the degree of

**Bachelor of Technology  
in  
Computer Science and Engineering**

Submitted by  
**Piyush Kumar (192025018)  
Anurag Mahato (182025006)**

**B.Tech CSE, 8<sup>th</sup> Semester  
Royal School of Engineering and Technology**

Under the guidance of  
**Mr. Spandan Kumar Barthakur  
Assistant Professor  
Royal School of Engineering and Technology**

*Handwritten signature*  
*Deep*

HOD/Coordinator  
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**THE ASSAM ROYAL GLOBAL UNIVERSITY  
GUWAHATI: 781035  
Session: 2019-2023**





ROYAL GLOBAL UNIVERSITY  
GUWAHATI

## CERTIFICATE OF APPROVAL

It is certified that the work contained in the report entitled "Synthetic Data Generation using Generative Adversarial Networks" by Piyush Kumar bearing Roll No 192025018 and Anurag Mahato bearing Roll No 182025006 of B.Tech, 8<sup>th</sup> Semester under the Department of Computer Science and Engineering, Royal School of Engineering and Technology, The Assam Royal Global University, Guwahati, Assam for the partial fulfillment of the degree of Bachelor of Technology has been carried out under my supervision and that work has not been submitted elsewhere for a degree.

### Project Guide:

*Spandan Kumar Barthakur*  
10/07/23

**Mr. Spandan Kumar Barthakur**

**(Assistant Professor)**

**Department of Computer Science  
and Engineering**

**Date:** 16/06/23

**Place:** Guwahati

*Piyush Kumar*  
16/06/23

**External Examiner**

**(Full Signature)**

*Final*

*Shikha*  
HOD/Coordinator  
Department of Computer Science & Engineer  
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Betkuchi, NH 37, Guwahati 781035



ROYAL GLOBAL UNIVERSITY  
GUWAHATI

## FORWARDING CERTIFICATE

It is certified that the work contained in the report entitled "**Synthetic Data Generation using Generative Adversarial Networks**" by **Piyush Kumar** bearing Roll No **192025018** and **Anurag Mahato** bearing Roll No **182025006** of **B.Tech, 8<sup>th</sup> Semester** under the Department of **Computer Science and Engineering, Royal School of Engineering and Technology**, under the guidance of **Mr. Spandan Kumar Barthakur, Assistant Professor** has been presented in a manner satisfactory to permit its acceptance as a prerequisite to the degree for which has been submitted.

Date: 16/6/23

Place: Guwahati

*P*  
*Ishita*  
*16/6/23*  
Dr. Ishita Chakrabarti

(Associate Professor)

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