

Memorandum of Understanding

between

**Technology Innovation Hub,
IIIT Hyderabad (iHub-Data)**

and

**Muffakham Jah College of Engineering and
Technology, Hyderabad**

Wishing to establish formal relations between the two institutions in the areas involving academic activities and research between (a) Technology Innovation Hub, IIIT Hyderabad and (c) Muffakham Jah College of Engineering and Technology, Hyderabad, hereby enter into an understanding to cooperate and work together with a common objective of betterment of the society on projects of mutual interest.

This Memorandum of Understanding (MoU) is made on this 25 day of April 2024 at Hyderabad by and between:

Technology Innovation Hub, IIIT Hyderabad having its registered office currently at Prof C R Rao Road, Gachibowli, Telangana, represented by Head of Academic Programs, iHub-Data, hereinafter referred to as iHub-Data, and which shall include all its nominees, assigns and successors

and

Muffakham Jah College of Engineering and Technology, Hyderabad having its registered office at Banjara Hills, Hyderabad represented by **Dr. Mahipal Singh Rawat**, Principal, hereinafter referred to as and which shall include all its nominees, assigns and successors.

And whereas:

- A. iHub-Data – The Technology Innovation Hub at IIIT Hyderabad proposes to advance ongoing inter-institutional networking, by taking more significant steps towards realizing partnerships with a tremendous scope for building large teams, spanning multiple institutions in the country to realize the benefits of study and use of data-driven research.
- B. Muffakham Jah College of Engineering and Technology, Established in the year 1980 under Sultan-UI-Uloom Education Society (SUES)
- C. iHub-Data and Muffakham Jah College of Engineering and Technology are entering into this MoU to arrive at a common understanding pertaining to their respective roles and responsibilities with regard to this collaborative effort.

Now it is hereby agreed by and between the parties hereto as follows:

1. Scope of the MoU

The MoU details the terms and conditions, areas of collaboration such as skill enhancement of students, up-skilling and cross-skilling of faculty resources, consideration of students for internships, higher degree research programs or projects, participation in scientific conferences or discussions on research projects etc. This MoU is not intended to be of legal force and effect, in any manner whatsoever, and shall not create a legal relationship between the parties.

2. Financial Arrangement

- A. iHub-Data and Muffakham Jah College of Engineering and Technology have decided to execute projects agreed upon mutually, by contributing their knowledge and expertise to such projects. Each party shall invest its own resources for services or for participating in joint projects, as required towards realizing the work envisaged, along with its own cost and accompanying risks.

- B. In case iHub-Data utilizes the facilities of Muffakham Jah College of Engineering and Technology, the recurring costs incurring for the usage will be borne by iHub-Data.
- C. In case Muffakham Jah College of Engineering and Technology utilizes the facilities of iHub-Data, the recurring costs incurring for the usage will be borne by Muffakham Jah College of Engineering and Technology

3. Broad Areas of Cooperation

- A. To discuss, transfer or disseminate academic and research topics of contemporary relevance in the fields of artificial intelligence and machine learning
- B. iHub-Data and Muffakham Jah College of Engineering and Technology will involve jointly towards forging relationships, enhance academic cooperation by facilitating pursuance of appropriate training or research programs under external registration in order to enhance research output.

4. Responsibilities of iHub-Data and Muffakham Jah College of Engineering and Technology

- A. Each party shall share information relevant to the potential collaborative research and development of projects, including information to facilitate understanding of each party's capabilities and requirements.
- B. Any other collaborative effort that each party may deem fit, from time to time.
- C. There shall be a separate **Statement of Work (SoW)** to the MoU for each new proposal and details of the terms and conditions, specific objectives, deliverables, financial arrangement, detailed timelines, milestones and other obligations of Hub and Muffakham Jah College of Engineering and Technology as applicable to each proposal.
- D. Each party shall undertake and complete the work on the proposal(s) as per schedule of work prepared separately. The period of completion of work could however be extended to such further periods, as may be mutually agreed upon, by the parties without any liability on either party.
- E. Each party shall separately or jointly submit a mid-term progress report and a detailed report for each proposal to the concerned funding agency or any other statutory authority.

5. Completion

- A. The work envisaged to be done by concerned party iHub-Data/ Muffakham Jah College of Engineering and Technology shall be deemed to have been successfully completed by the iHub-Data/ Muffakham Jah College of Engineering and Technology on submission of all requisite interim or final outcomes/fulfillment of its/their responsibilities as detailed in the proposal.
- B. The proposal shall be deemed to have been successfully completed on satisfactory fulfillment of criteria fixed by each party or any other criteria mutually agreed by the parties hereto.

6. Results of Proposals

- A. Any intellectual property rights patents/design/trademark/copyrights obtained by the parties hereto pertaining to the projects prior to signing of the MoU shall remain the property of the respective party.
- B. The intellectual property, viz contents generated by one party and offered shall remain with the party that created it, and prior permission should be obtained if these

are re-used verbatim for commercial purposes. Tutorial contents, however can be re-used with or without modification, on an as-is-basis with no warranty being offered on the reliability and reproducibility of such contents – as these were created purely to assist with the understanding of the lecture topic.

7. Activities and Specific Requirements

- A. Participate in projects/initiatives/programs detailed along with the specification and the time period, as defined in the respective SoWs.
- B. It is hereby clarified that by way of entering into this MoU, the parties are not making any commitment other than to work together in an endeavor to promote research and education with an overall aim to improve inter-institutional relationship.
- C. The Parties agree that the Activities would be identified based on the mutual discussion of the Parties. Nothing in this MoU binds the Institution to perform any Activities unless the Parties in writing execute a binding agreement (“**Proposal Agreement**”). Until the Proposal Agreement is in place, the parties may choose in good faith to carry out the necessary activities based on a mutually agreed Statement of Work (SoW).
- D. The parties may use resources, assistance or support provided by the other party only in accordance with the terms outlined and for the purposes expressly stated in the SoW or as per the Proposal Agreement. Any deviation from the use of resources, assistance or support, as stated in the Specific Requirements would be as mutually agreed among the Parties in writing.

8. Confidential Information

During the tenure of the MoU and for 02 years thereafter, each party undertakes on behalf of their sub-contractors/employees/representatives/associates to maintain strict confidentiality and prevent disclosure thereof, of all the information and data exchanged/generated pertaining to the work under this MoU for any purposes other than that in accordance with MoU.

9. Force Majeure

Neither party shall be held responsible for non-fulfillment of their respective obligations under this MoU due to the exigency of one or more of the force majeure events such as but not limited to acts of nature, war, flood, earthquakes, strike, lockouts, epidemics, civil commotion, etc. provided on the occurrence and cessation of any such events, the party affected thereby shall give a notice in writing to the other parties within one month of such occurrence or cessation. If the force majeure conditions continue beyond six months, the parties shall then mutually decide the future course of action.

10. Effective Date, Duration and Termination of the MoU

- A. The MoU shall be effective from the date of signing and shall remain in force for a period of 12 months from the said date. Further extension of the MoU will be considered for another period of 5 years on terms and conditions, mutually agreed upon.
- B. The MoU shall terminate on the expiry of the said period, unless extended by each of the parties.

11. Miscellaneous

- A. Amendments to the MoU: No amendment or modification of this MoU shall be valid unless the same is made in writing by each of the parties or their authorized representatives and specifically stating the same to be an amendment of this MoU. The modifications/changes shall be effective from the date on which they are made/executed, unless otherwise agreed to.
- B. Assignment of the MoU: The right and/or liabilities arising to any party under this MoU shall not be assigned except with the written consent of the other party and subject to such terms and conditions as may be mutually agreed upon.
- C. Limitation of Liability and Indemnity: The Parties mutually agree that to the extent permitted by law neither Party will be liable to the other for any direct, consequential, indirect or special damages arising out of or related to the performance of Services under this Agreement, except with respect to Material Breaches of this Agreement.
- D. Survival. All provisions of this MoU which by their nature are intended to survive its Term will remain in force after any termination or expiration of this MoU including.
- E. This MoU shall be construed, interpreted and governed by the Laws of Republic of India and the courts of Hyderabad, India and New Delhi, India shall have exclusive jurisdiction over any disputes that arises out of this MoU or SoW.

In witness where of the parties hereto have executed this MoU on this _____ day _____ of the month _____ and this _____ year above written and has caused the same and the said duplicate to be executed as hereinafter appearing.

For iHub-Data

Name & Designation: Dr Jay Mookherje

Date: 25-04-2022

Witness:

1. Shabbeer
25/04/2024

Jay Mookherje
2. Atul
25/04/2024

For Muffakham Jah College of Engineering and Technology, Hyderabad

Name & Designation: Dr. Mahipal Sigh Rawat

Date: 25-04-2024

Witness:

1. Dr. Syed Shabbeer Ahmad

2. Dr. Maniza Hijab

Shabbeer
25/04/2024

Atul
25/04/2024

Mahipal Sigh Rawat
25/04/2024

Statement of Work

This Statement of Work (SoW) dated 25-04-2024, is entered into pursuant to the Memorandum Of Understanding (MoU) dated 25-04-2024 between Technology Innovation Hub, IIIT Hyderabad(iHub-Data) and Muffakham Jah College of Engineering and Technology.

All terms not otherwise defined herein have the meaning ascribed to them in the MoU. The parties iHub-Data and Muffakham Jah College of Engineering and Technology agree as per details in this SoW in accordance with the following requirements and schedules. All the legal terms and conditions for this SoW shall be governed by the MoU. In case of any conflict between the terms and conditions of this SoW and the terms and conditions of the MoU, the terms and conditions of this SoW shall prevail.

Engagement Mode: Add-on Courses on Modern Machine Learning for motivated Students

1. Title of the Program – Add-on Courses on Modern Machine Learning: This training program would introduce theoretical insights in fundamentals on modern machine learning. It would be backed up by tutorial sessions, using open source software tools, recap with state of the art algorithms, frameworks and architectures.

2. Objectives: The objectives of the training program include

- A. Enlarge expert-student pool in modern machine learning especially in (i) use of tools/libraries (ii) use of public resources (datasets, trained models), and (iii) systematic training of ML models and their evaluation,
- B. Explore and mitigate vital gaps in formulating, implementing or evaluating problem-statements pertaining to teaching and learning environments,
- C. Familiarize with many state of the art results that could be of practical help in formulating and solving original problems using fundamentals of modern machine learning,
- D. Up-skill motivated students of Muffakham Jah College of Engineering and Technology to make them confident of undertaking research or work on innovative projects,

3. Expected Outcomes: At the end of the course, the participants would be able to:

- D. appreciate fundamentals of modern machine learning with its scope and limitations,
- E. gather sufficient hands-on experience in programming environments - use of appropriate machine learning libraries and frameworks for solving complex problems,
- F. appreciate recent advancements in machine learning algorithms and architectures,
- G. undertake and implement machine learning solutions in their own areas of expertise.

4. About the Program: The Add-on Courses on Modern Machine Learning for institutes involve training 60-100 students who are highly motivated from various disciplines of UG Engineering for a series of three add-on courses on modern machine learning. Students who complete one add-on course will get a certificate mentioning areas of proficiency gained. Students are free to drop out at any stage, but cannot join a higher semester add-on course without completing the pre-requisite add-on courses offered at lower semesters.

The three different components for this unique training program are listed below:

(a) The training program would be live sessions during weekend for lecture sessions and off-working hours on weekdays for discussions on live tutorials. The program would commence from July 2024.

(b) The toppers from this add-on series would be seeded for higher study at IIT Hyderabad.

(c) Selected students would also be invited for all special events happening at IIT Hyderabad – technical symposiums, conferences, invited talks etc

6. Broad Contours of Curriculum

Linear Algebra, Calculus, Statistics and Probability - Introduction to ML, Machine Learning Problems, Learning and Data, Data Transformations, - Data Visualization and Plotting - Principal Component Analysis, Non-Linear Dimensionality Reduction, Advances in DR for Visualization – Classification with Neural Network, Performance Evaluation Metrics, Representing Textual Data - String Matching and Applications, Perceptron and GradientDescent - Margin and Multi-class Classifiers, Linear SVM, Non-linear SVM, Decision Trees Decision Tree Learning, Random Forests and Ensembles, Linear regression, MSE and polynomial regression - Loss functions and KNN regression, Regularization, Logistic regression, K-Means Clustering - Hierarchical Clustering, Matrix Factorization and SVD, Anomaly / Outlier detection - Introduction to Probability Theory, Naive Bayes Classifier, Bayes Classifier and Application - Probabilistic Mixture Model, Multi-Layer Perceptron, Training an MLP, Convolutional Neural Networks - CNN's in Practice, RNNs, Advanced Architectures and Applications

8. Course Specialities and Budget Estimates

Specialities : A few highlights of this SoW include

(a) Live and interactive training program with ample scope for discussion, experience sharing and doubt clearance,

(b) Personalized assistance with curated contents for tutorials,

(c) Special invitation to attend distinguished lectures, symposiums and conferences organized at IIT Hyderabad,

(d) Classes and exams would be online.

Financials : The financials planned for this SoW covering three semester long, Add-on Courses on Modern Machine Learning for a batch size of 60-100 students is Rs 6 lakhs, valid for one iteration of the program (three add-on courses).

Note : It is expected that institute nominate highly motivated students with equal gender representation and adequate representation from marginalized communities.