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| **Working Title of the Project:** | | Deep RNN-based traffic analysis for detecting target applications | | |
| **Project Site / Location** | |  | | |
| **Name and address of the company / organisation**  **(Applicable for projects with industry or industry support)** | | SRM University, Kattankulathur, Chengalpattu District-603203 | | |
| **Supervision Team** | | | | |
|  | **Supervisor** | | **Co-Supervisor** | **External Supervisor**  **(If applicable)** |
| **Name** | Dr. Maivizhi R | | **-** | **-** |
| **Designation** | Assistant Professor | | **-** | **-** |
| **Department** | CINTEL | | **-** | **-** |
| **Campus** | Kattankulathur | | **-** | **-** |
| **Telephone** | 9655554718 | | **-** | **-** |
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| --- | --- | --- | --- | --- |
| **Name of student** | **Register Number** | **Department** | **Mobile Number** | **Email ID** |
| Tarun Negi | RA2011026010132 | CSE | 7985857522 | tn9791@srmist.edu.in |
| Dibyajyoti Ganguly | RA2011026010122 | CSE | 8337090777 | dg7255@srmist.edu.in |

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| **Degree/ program** | B.Tech | **Specialisation** | Computer Science& Engineering  **Project Batch ID**  **CIN167** |
| **Academic Year** | 2023-2024 (Odd) | **Semester** | 7 |
| **Course Code** | **18CSP107L/ 18CSP108L** | **Course Title** | Minor Project/Internship |
| Mission Statement | | | |
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| **Problem (or) Product Description:** | | | |
| The problem addressed is the need for precise and efficient analysis and forecasting of network traffic to identify target applications within the data. The proliferation of diverse applications and evolving attack vectors makes traditional methods inadequate. The research proposes using deep learning, particularly Long Short-Term Memory (LSTM) networks, to classify network traffic into application categories. This approach aims to enhance network management, security, and quality of service optimization. The research involves comparing the LSTM-based method with conventional techniques to assess its effectiveness in addressing the challenges posed by dynamic and complex network traffic. | | | |
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| **Assumptions and Constraints** | | | |
| Assumptions: Accurate data, effective LSTM, comprehensive labels, consistent environment, and generalization.  Constraints: Limited quality data, computational resources, processing speed, encrypted traffic, and expertise/resources for LSTM implementation. | | | |
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| **Stakeholders** | | | |
| Stakeholders for this research and its applications in network traffic analysis using LSTM include network administrators, security analysts, data scientists, IT managers, application developers, researchers, business executives, service providers, regulatory bodies, and end users. They all have an interest in improving network performance, security, and resource allocation through accurate traffic analysis and forecasting using advanced deep learning techniques | | | |
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**Division of work and contributors**

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| **Time period** | | **Activities or components of the project** | **Name/Register Number of the Individual Contributor** | **Names/Register Number of the Joint Contributors** |
| **From Date** | **To Date** |
| 1/08/23 | 18/08/23 | Working on project problem statement | TARUN NEGI | DIBLYAJYOTI GANGULY |
|  |  |  |  |  |
| 10/09/23 | 6/10/23 | Working on base paper and data preprocessing | TARUN NEGI | DIBLYAJYOTI GANGULY |
|  |  |  |  |  |
| 7/10/23 | 15/10/23 | Preparing Literature survey | TARUN NEGI | DIBLYAJYOTI GANGULY |
|  |  |  |  |  |
| 21/10/23 | 27/10/23 | Working on code implementation | TARUN NEGI | DIBLYAJYOTI GANGULY |
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| 28/10/23 | 03/11/23 | Finishing up research paper and comparing the results | TARUN NEGI | DIBLYAJYOTI GANGULY |
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**Division of work and contributors**

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| **Time period** | | **Activities or components of the project** | **Name/Register Number of the Individual Contributor** | **Names/Register Number of the Joint Contributors** |
| **From Date** | **To Date** |
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**Summary record of major progress meetings with supervisors**

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| --- | --- | --- | --- | --- |
| **Summary record of major progress meetings with supervisors** | |  | **Working title of dissertation/research project:** | |
| **Meeting date & supervisors present** | **Progress since last meeting** | **Agreed programme of work and target dates** | **Other issues,**  **e.g., facilities, supervision, training needs, etc.** | **Date of next meeting** |
| 21/08/23 | Started working on the research paper | Started searching for related research papers on IEEE |  | 25/08/23 |
| 25/08/23 | Literature survey for 15 IEEE papers | Finalising base paper and studying it thoroughly |  | 10/09/23 |
| 10/09/23 | Code implementation | Working on 80% implementation of the code |  | 24/09/23 |

**Summary record of major progress meetings with supervisors**

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| --- | --- | --- | --- | --- |
| **Summary record of major progress meetings with supervisors** | |  | **Working title of dissertation/research project:** | |
| **Meeting date & supervisors present** | **Progress since last meeting** | **Agreed programme of work and target dates** | **Other issues, e.g., facilities, supervision, training needs, etc.** | **Date of next meeting** |
| 24/09/23 | Full code implementation | Working demo of the project and comparison with other models |  | 4th November |

**Worksheet / Data collection / Observation etc**

**Journal Publication Details**