1. Spectrum defragmentation management in elastic optical networks using machine learning
   * ­­­­­Funding Agency: Indo-Japan collaborative project, DST (India)-JSPS (Japan)
   * Implementing agency: South Asian University, New Delhi, India and Kyoto University, Japan
   * Duration: 2020 to 2022
   * Role: Principal Investigator
   * Amount: 6,60,000 INR (Indian Side) + 2,000,000 JPY (Japan Side)
2. **MAITREYI: An End-to-End Reinforcement Learning Based Conversational Agent with Summarization and Emotion Understanding Capability.**

2022-25. IIT Bombay in partnership L & T Infotech.

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| **Title** | **areas** | **date** |
| **MAITREYI: An End-to-End Reinforcement Learning Based Conversational Agent with Summarization and Emotion Understanding Capability.** | **Machine Learning** | 2022-25. IIT Bombay in partnership L & T Infotech. |
| VIDYAAPATI: A Speech to Speech Machine Translation System for Bengali, Hindi, Konkani, Maithili, Marathi | **Maching Learning** | 2022-24. Consortium of IIT Bombay (Lead), CDAC Kolkata, CDAC Pune, Goa University, IIT Patna, ISI Kolkata, Jadavpur University, Jawaharlal Nehru University. |
| ISHAAN: A Speech to Speech Machine Translation System for Assamese, Bodo, English, Hindi, Manipuri, Nepali | **Maching Learning** | 2022-24. Consortium of IIT Bombay (Lead), Guahati University, IIIT Manipur, NIT Silchar, North Bengal University. |
| Bahubhashak Pilot: Speech to Speech Machine Trsnaltion for Indian Languages |  | 2020-21. with Prof. Preethi Jyothi, CSE, IITB. |
| Multimodal Knowldge Based AI |  | 2019-22. |
| Hindi-English Judicial Machine Translation |  | 2017-2019. Consortium of CDAC Pune, IIT Delhi, IIT Bombay, IIIT Allahabad and IIT Patna (coordination). |
| Artificial Intelligence in Question Answering, Virtual Agent and Machine Translation |  | 2016-2018. Collaborative research between Accenture Global R & D, IIT Bombay and IIT Patna. |