

WORK EXPERIENCE

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- NEC Corporation** Tokyo, Japan
AI Researcher, Global Innovation Unit Oct'19 - Present
 - Designed and implemented a novel **Reinforcement Learning** and **Deep Learning** based state-of-the-art automated negotiating agent framework with average performance improvement of 25%.
 - Submitted **one international patent** under PCT and published a **paper** in an international conference (AAMAS 2020).
 - Collaborated with The National Institute of Advanced Industrial Science and Technology, Japan (AIST) for research and design of automated negotiation protocols, strategies and value function for various domains.
 - Reviewed and edited Business Requirement Specifications (BRS) and Implementation guidelines of eNegotiation project for The United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) as an expert member.
 - Developed an automated negotiating agent using **NegMAS** framework for Supply Chain Management League of Automated Negotiating Agents Competition 2020 (ANAC 2020) and secured the **2nd position**.
 - IIT Bombay** Mumbai, India
Research Assistant, Control and Computing Laboratory Aug'16 - Jun'19
 - Proposed and implemented a novel algebraic solver for solving boundary control problem of real world applications governed by partial differential equations; published a paper in an international conference (SIAM-PD19).
 - Implemented algorithms for checking potential solution spaces of PDEs using **Python** and **SageMath** for "Algebraic Solver of PDEs" project funded by Ministry of Science and Technology, India.

EDUCATION

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- Indian Institute of Technology Bombay** Mumbai, India
Master of Technology in Electrical Engineering; CGPA: 9.14 2016 – 2019
 - Indian Institute of Engineering Science and Technology, Shibpur** Howrah, India
Bachelor of Engineering in Electrical Engineering; CGPA: 7.77 2011 – 2015

OTHER PROJECTS

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- Automatic Trading Bot:** Created a sophisticated automated cryptocurrency trading bot as a hobby project which guarantees an increase of the initial holding coin using **Python** and Binance API and deployed on the Binance platform. Mar'21 - Present
 - Fake News Detection:** Trained a NLP and deep learning based fake news generating model using **Tensorflow** and deployed using twitter API as a part of "Fake News Detection" project. May'19 - Feb'21
 - Inverse Image Captioning Model:** Trained a Deep Convolutional GAN based model in **Tensorflow** for generating realistic images from text descriptions as the course project of "Advanced Machine Learning" course. Jan'18 - May'18
 - Comment Moderation System:** Trained a Bidirectional LSTM based model and deployed on Heroku for automatic classification of abusive and toxic comments as a part of a PoC for "Comment Moderator System". May'18 - Sept'18
 - IIT Bombay Website:** Created the official website for "Control and Computing specialization" of Electrical Engineering Department using **Bootstrap** and enabled **Markdown** based effortless website updates for student administrators. May'18
 - Satellite Image based Water Resource Survey:** Trained a CNN based model for water body detection and survey from satellite images with an overall accuracy of 98% as the course project of "Foundations of Machine Learning". July'17 - Nov'17
 - Kaggle:** Created a model for predicting the time remaining for next laboratory earthquake from real-time seismic data in "LANL Earthquake Prediction challenge" and received a silver medal with MAE score of 2.48 (top score: 2.26).
 - Kaggle:** Predicted the capability of each applicant for repaying a loan using LightGBM based classifier for "Home Credit Default Risk Challenge" with a score of AUC-ROC 0.792 (top score: 0.805) on public leaderboards.
 - Kaggle:** Predicted the probability of a system being hit by a malware for "Microsoft Malware Prediction" with a AUC-ROC score of 0.634 (Top score: 0.676) on private leaderboards.

PROGRAMMING SKILLS

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- Languages:** Python, SQL, C, HTML, CSS, Javascript.
 - Libraries/Framework:** TensorFlow (Google Certified), PyTorch, Keras, scikit-learn, Flask, NegMAS.
 - Others:** Docker, AWS Sagemaker, Bootstrap, SageMath, L^AT_EX, Markdown, Git.

POSITION OF RESPONSIBILITIES

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- System Administrator of Hostel, IIT Bombay:** Oversaw upkeep, configuration and reliable operation of LAN network, Switches, WiFi and computer rooms; Managed purchases, installations and regular upgrades. Apr'17 - Jul'18
 - Designer, BackgroundHum, IIT Bombay:** Designed and published the 2017 edition of department newsletter "BackgroundHum" of Electrical Engineering Department using Adobe InDesign. Sept'16 - Jul'19
 - Post Graduate Academic Council, IIT Bombay:** Organized and delivered Institute wide technical workshops like **Python Workshops** for master students and research scholars; designed certificates, posters for various events. July'17 - Jul'19