Manas Gupta

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Education

- **University of Florida** — FL, United States
  Master of Science - Computer Science; GPA: 3.77/4.0 — *Aug 2021 - Present*
  Courses: *Advanced Data Structures, Software Engineering, Human-Computer Interaction, Trustworthy ML, Analysis of Algorithms*
- **Jaypee Institute of Information Technology** — Noida, India
  Bachelor of Technology - Computer Science; GPA: 7.6/10 — *July 2017 - June 2021*
  Courses: *ML & Natural Language Processing, Artificial Intelligence, Computational Intelligence, Automata Theory, Operating Systems, Data Science, DBMS*
  University of Florida: *Spring 2021 Exchange Program Student; GPA: 3.83/4.0*

Projects

- **Reducing Membership Inference Leakage using Machine Unlearning**: As overfitting of ML models is one of the major reasons behind membership information leakage, we attempt to reduce this overfitting and hence the information leakage using Machine Unlearning techniques.
- **Leveraging Nudging Techniques Towards Encouraging Break Taking**: Research oriented project in which Chrome extension was made incorporating concept of nudges to make break taking more effective. Conducted iterative studies while developing the prototype and the working model of the system. System's utility and hypothesis testing was done through a study conducted on 36 participants. Tech: Javascript, HTML, CSS (May '21)
- **Covid forecasting using hierarchical clustering and SVM**: Performed state-wise clustering based on number of Covid-19 cases in India followed by forecast using Support Vectors Machine. Tech: Python, Tensorflow, Keras, Matplotlib & OpenCV. (Feb '21)
- **Smart Login System - Face Recognition and Alphabet Recognition**: A login system created using Flask and deep learning algorithms for face recognition using siamese network and hand gesture recognition using openCV. The system consists of a user id check using the face followed by an OTP to user's mail address which they can enter using hand gestures. Tech:Python, Tensorflow, Keras, openCV (Dec '20)
- **REcyeipts**: Formulation and concept of effective waste management presented for the Florida Hacks With IBM hackathon. The application aims to educate people about carbon footprint of products they use and recommending substitute products, provide waste management advice on the basis of the products they purchased, etc. Won **3rd Place** out of **45+ projects** submitted and a cash prize of **USD 15k.**

Skills Summary

- **Programming Languages**: Python, JavaScript, SQL, JAVA, C++, F#
- **Libraries**: Scikit, NLTK, TensorFlow, Keras, Flask, NodeJS, React, Librosa, openCV
- **Tools & Techniques**: GitHub, GIT, MySQL, Jira, Trello, Google Analytics, Focus Groups, Affinity Diagramming

Experience

- **Profit Plug** — Remote
  Python Development Intern — *Aug 2020 - Nov 2020*
  - **Description**: Team member in the project aimed to create an accounting software for the company.
  - **Tasks**: Responsible for the practical implementation of PyQt5 and DBMS in the project.
  - **Point of Contact**: Dealt with the accountants about the functionalities to be included in the software.
- **Techwalnut Innovations LLP** — Remote
  Machine Learning Intern — *May 2020 - Aug 2020*
  - **Project - Design and deploy face recognition system for the company**: Worked on deep learning based Siamese network for multi class classification problem and made the facial recognition program using Siamese network for end to end usage.
  - **Tasks**: Curated data and algorithm for the system. The model's prediction was more than 90% accurate.
  - **Result**: The system was tested in real-time on a local server and was later uploaded to company's cloud space to be deployed.

Publications

- **Research Paper: Speech Emotion Recognition Using MFCC and Wide Residual Network (Signal Processing, Deep Learning)**: Published in IC3 2021 Conference, the work aimed to predict emotion from speech signal's MFCCs using Wide Residual Networks achieving more than 89% accuracy. Tech: Python, Tensorflow, Librosa (Jan '21)
- **Research paper & Poster : Romadoro: Leveraging Nudge Techniques to Encourage Break-Taking (Javascript, Pomadoro)**: Published in UIST '21 Conference Tech: Javascript, HTML, CSS (July '21)
- **Research paper: Transfer learning-based Attention gated Siamese network for Human and SARS-CoV-2 protein interactions (Deep Learning, Bioinformatics)**: Published in Current Trends in Biotechnology and Pharmacy Journal. Tech: Python, Tensorflow (July '21)

Social Internship

- **Netritva - The Art of Living Internship Program**: Participated as an intern in a service project involving use of waste plastic bottles as bricks and using them to build public facility in Delhi. (Nov '19)