SAURABH JOHRI

MP, India |

EDUCATION

Boston University, *Boston, MA, USA*
- MS in Artificial Intelligence - GPA 3.8 / 4.0 — Sep 2020 - Jan 2022

Indian Institute of Information Technology, Una, *Una, HP, India*
- B.Tech. in Electronics and Communication Engineering — Jul 2016 - Aug 2020

SKILLS & TOOLS

Machine Learning	Python	Computer Vision	TensorFlow	pandas
numpy	scikit-learn	matplotlib	git	nltk
html/css	C++	Unity	C#	LOVE2D

EXPERIENCE

Member of AI & Emerging Media Research Group - Boston University, *Boston, MA* — Oct 2020 - Feb 2021
- Classified images about climate change from media outlets (traditional news and Twitter) with multiple stages of convolutional neural networks (CNNs).

Deep Learning Research Intern - IIITDM Jabalpur, *Jabalpur, MP, India* — May 2018 - Jul 2018
- Implemented a deep generative adversarial network (GAN) for image steganography in Keras based on a PyTorch implementation from a paper titled HiDDeN (Jiren Zhu et al.). Training set consisted of 10000 images.

Community Teaching Assistant - MITx on edX, *Online* — Jun 2015 - Dec 2015
- Created and managed a Slack team for two iterations of introductory Python courses offered by MIT on edX (6.00.1x and 6.00.2x).
- Moderated the discussion forum and assisted peers with their queries regarding course material and coding assignments.

PROJECTS

VoteAmerica - Audience Analysis for Vote-By-Mail Text Messages
- Analyzed ~8.8 million text messages sent to voters across the US during the 2020 election cycle.
- Explored the demographics of people who were targeted, those who were reached, and voting rates in that group.

Semi-Supervised/Unsupervised methods for Hand Pose Estimation [Python]
- Explored three different semi-supervised techniques for hand pose estimation. The models explored were DeepPrior, Ladder networks, and PredNet. Posture images were from the ICVL hand posture dataset (3 GB subset).

Lung X-Ray Image Classification (Course Challenge) [Python]
- Classified X-Ray images of lungs to detect the presence of COVID-19 and pneumonia.
- Achieved 99th percentile accuracy in both binary and multi-class classification tasks.

Financial News Curation and Analysis [Python]
- Correlated media (news) sentiment about companies with stock market performance by measuring volatility, momentum RSI, exponential moving average (experiment metrics - Pearson's, Spearman's correlation, and Granger causality).
- Sentiment analysis was performed through Vader.

Multiple Object Tracking using Kalman filters [Python]
- Tracked positions and trajectories of multiple bats and multiple cells in a petri dish by utilizing Kalman filters.
- OpenCV implementation of Kalman filters was incorporated in the project.

Human Exercise Classification using Pose Estimation Models [Python, Bash]
- Developed a classifier for human exercises by means of extant pose estimation models (specifically OpenPose). Leveraged LSTM cells to gather temporal information from pose key points.

HOBBIES & INTERESTS

Astronomy | **Game Development** | **Puzzles**

LANGUAGES

ENGLISH (bilingual proficiency) | **HINDI** (native proficiency)