Aniruddha Sinha

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EDUCATION

University at Buffalo (UB) — The State University of New York — Buffalo, New York
Master of Science - Computer Science; GPA: 3.482 — *Aug'18 - Dec'19*

Tezpur University — Tezpur, India
Bachelor of Technology - Electronics & Communication Engineering.; CGPA: 8.43 — *Aug'13 - Jun'17*

SKILLS

- **Languages**: Python, Java, SQL, R, C
- **Web Tech**: HTML5, CSS3, Javascript
- **Frameworks**: Beautiful Soup 4, Scikit-Learn, NLTK, TensorFlow, Keras, Google BERT, OpenNLP
- **Tools**: AWS, Elastic Search, Docker, GIT, Apache Spark, Apache Hadoop, MySQL, noSQL, Tableau

EXPERIENCE

Research Developer — Dept. of Computer Science, UB — *Jun'19 - Present*
- Worked on a project for Human Behavior Analysis and Modification using three channels - human text entry, human speech and human facial micro-expressions in the background of Episodic Future Training (EFT) of Behavioral Medicine.
- Developed and deployed scripts for Data Engineering, Statistical Analysis and visualization of the text, audio and video data achieved from the studies. Produced happiness scores on all three channels through NLP and a Deep Learning model trained on the relevant features to study correlation between micro-expressions and reducing impulsive decision making.

Graduate Assistant — Artificial Intelligence Innovation Laboratory (A2IL), UB — *Jan'19 - Jan'20*
- Devised and executed a pipeline for a project aimed at Ground Truth Generation from Biomedical Text Archives for training Machine Learning models.
- Built an XML parser from scratch for over a million National Institute of Health's (NIH) Pub Med Central text archives using Beautiful Soup 4 and Python3.

Software Engineer — Stratbeans Consulting Pvt. Ltd., India — *Jun'17 - Jul'18*
- Worked on full-stack development, responsible for cross-functional product development of a Learning Management System, using MVC architecture.
- Assisted Cloud Solutions and deployment of Web Applications for scale.
- Used my domain knowledge of AI and Machine Learning in Multimedia (Video, Audio, Text) search solutions to give faster access of documents and videos to corporate customers.

Software Engineer Intern — Stratbeans Consulting Pvt. Ltd., India — *Jan'17 - Jun'17*
- Developed a chatbot to ease the process of finding similar corporate legacy documents by using ElasticSearch.
- Improved quality of the result of the chatbot over time.

PROJECTS

Generate Movie Recommendations — Buffalo, USA
Skills: Apache Spark, SQL, AWS EMR — *Mar'20*
- Generated the 10 most popular movies in the movieLens dataset of 1M movies using movie ratings and found the 10 most similar movies to each of them using Item-based collaborative filtering in Spark. Used 1 GB of executor memory on the EMR cluster.

Maritime Vehicle System Data Analysis (Student Volunteer-Buffalo Automation, Buffalo) — UB, USA
Skills: Python3, OpenCV, Keras, YOLO, CUDA — *Jun'19 – Dec'19*
- Led a team of 4 and developed a mechanism as a solution for automated docking and navigation of maritime vessels for a Buffalo based startup, using Deep Learning and classical Computer Vision techniques with stereoscopic cameras.
- Performed real-time object detection by customizing YOLO v3 models for maritime environments.

Big Data Analytics of US Politics, early 2019 — UB, USA
Skills: R, Python, AWS(EMR & EC2), Hadoop HDFS, Tableau — *Feb'19 – Apr'19*
- Cleaned and analysed scattered political data from Twitter, NY Times and Common Crawl APIs to find the then trending political topics.
- Performed word count through Map Reduce on AWS EMR and generated a word-cloud on Tableau.

An IoT based Wearable Health Monitoring and Messaging System — Tezpur University, India
Skills: C, Arduino Nano, Google Fusion Tables, MIT App Inventor 2 — *Jan'17 – Jun'17*
- Developed a wearable, Bluetooth prototype over a period of 16-20 weeks to monitor the real-time basic health parameters such as heartbeat, body temperature, and body impact values of the elderly and physically challenged people.
- Built an Android app to display health parameters, calculate present health condition, and update relatives via text message with the GPS location of the patient.

LEADERSHIP

- **Volunteer - BEBV Team, American Red Cross** — Remote — Sept'20 - Present
- **Chair, IEEE Student Chapter** — Tezpur University, India — Jan'16 - Jan'17
- **Marketing Event Coordinator, TEDxTezpurUniversity'16** - first ever TEDx event at the University — Tezpur University, India — Aug'16

PUBLICATIONS

- Munish Manas, Aniruddha Sinha, Shubham Sharma, M.R.Mahboob, **"A Novel approach for IoT based Wearable Health Monitoring and Messaging System"**, *Journal of Ambient Intelligence and Humanized Computing, Springer*, Nov 2018.