

SAHIL WADHWA

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EDUCATION

University of Illinois, Urbana-Champaign

MS in Statistics

Dec 2020

GPA: 4.0/4.0

Jamia Millia Islamia, New Delhi

Bachelor of Technology, Computer Science

May 2016

GPA: 9.6/10

WORK EXPERIENCE

Home Depot

Data Scientist

Jan '23 - Present

Enterprise Intelligence

- Creating conversational AI solutions for **Interactive Voice Response (IVR)** and **Messaging** systems within Home Depot. This involves intent classification, slot fitting, and smart reply predictions
- Submitted a paper to **EMNLP 2024** titled "Enhancing Task-Oriented Dialogue Systems: Semantic Aware Nearest Neighbors for Real-time Intent Classification" which aims to detect customers intent in a task-oriented dialogue system

Amazon

Applied Scientist

Aug '21 - Jan '23

Alexa AI

- Developed multi-modal SoTA cascaded **Neural Turing Machines (NTM)** based network for multi-turn fashion image retrieval with an overall improvement of **50%** over previous benchmarks.
 - Using multi-turn transactions of an image and feedback text the model **retrieves** the best matched image based on the interactions between the user and machine. This was **deployed** as a **chatbot** feature in Alexa Fashion domain and is in beta testing. [Paper](#) accepted in **ICCV 2023**.
- Worked on gesture recognition for **Augmented Reality (AR)** on hands using object detector, landmarks extractor and **Kalman filter** tracking using **mobilenetV2** and **efficientnet** resulting in gains of over **5%**.

Citizen Corporation

Data Scientist

Feb '21 - Aug '21

- Built framework for **Named Entity Recognition (NER)** of seminal entities such as **Diagnostic and Therapeutic Procedures** using **LSTM** from clinical pdfs.
- Developed **Tensorflow** and **Kubeflow** based CNN model to **segregate** clinical texts on the basis of importance, thereby reducing the manual read time by **2X hours**

Blackrock

Machine Learning Engineer

Feb '18 - Aug '19

Financial Modeling Group

- Built end-to-end word-embedding model similar to **word2vec**. Enabled large scale training using **Ignite** for async updates across multiple nodes. Deployed the code using **Docker** image and **Kubernetes**
- Developed a novel word-level **Entity Linking/Disambiguation** model by using **BERT** and **bi-LSTMs** surpassing SoTA on **AIDA** test dataset by **2%**. Model deployed using tensorflow-serving. Accepted in [AAACL](#)

Scry Analytics

Data Scientist

June '16 - Sept '17

- **Relation Extraction**: Developed a **Convolution Neural Network(CNN)** based deep learning model to identify relationships between entities in a text. Achieved **F1** score of **85%** surpassing previous feature-based models by **15%**
- Implemented Big Data pipelines in **Spark** for fast retrieval and processing of data residing in **HBase**. Reduced the pipeline execution time from **3 days** to **6 hours** by switching the entire pipeline from **Map-Reduce** to **Spark**

INTERNSHIPS

Inference Analytics

NLP Research Intern

Aug '19 - Dec '20

- Created an end to end model to perform **aspect-based sentiment** analysis using pre-trained encoders and topic modeling techniques (LDA, Rake).

Seagate Technologies

Machine Learning Engineer Intern

May '20 - Aug '20

HAMR Write Design Team

- Designed a web-based Machine Learning pipeline for data segmentation, wrangling and ranking

SKILLS

Languages - Python, C++, Java, R, Scala, JavaScript

Frameworks and Databases - Tensorflow, Spark, PyTorch, SQL, Hive, HBase, BigQuery, Hadoop, Docker, Kubernetes, AWS, GCP, TensorRT