

JHANVI ARORA

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PERSONAL STATEMENT

I am a Computer Science postgraduate with a keen penchant towards the emerging areas of data handling, analysis – using Machine Learning techniques. I want to delve deeper in the domain of Computer Science by augmenting my skillset and seeking prospects that enable me to exercise my gained skills. I hope to leverage my skills as a professional while working with an organization and enrich my experience through continuous learning and teamwork.

EDUCATION

MASTER OF APPLIED COMPUTER SCIENCE, CONCORDIA UNIVERSITY

JANUARY 2021-AUGUST 2022

- GPA: 3.54/4.3
- *Relevant Coursework*- Distributed System Design, Advanced Programming, Information Retrieval and Web Search, Applied Artificial Intelligence, Deep Learning, Algorithm Design Techniques.

BACHELOR OF TECHNOLOGY (INFORMATION AND COMMUNICATION TECHNOLOGY), PANDIT DEENDAYAL PETROLEUM UNIVERSITY

JUNE 2016 – JULY 2020

- GPA – 9.35/10
- *Relevant Coursework*- Data and File Structures, Machine Learning, Artificial Intelligence, Natural Language Processing, Data Warehousing and Data mining, Entrepreneurship and Business Planning.
- Emerged Semi Finalist in Inter-College Group Discussion Contest, "Clash of Titans" in 2019.
- Elected to Content Editor Position for ACM University Chapter in 2017.

SKILLS

- Experience in devising intelligent **recommendation systems**.
- Strong understanding of **deep learning frameworks** – experience with **PyTorch, TensorFlow, Keras**
- Has **drafted and maintained documentation** of developed prototypes conforming to standards.
- Possess **advanced Problem-Solving Skills** – background in competitive coding and problem-solving projects.
- Implemented Knowledge of **Machine Learning Algorithms** – **Supervised and Unsupervised (Scikit-Learn, Pandas, NumPy)**
- Programming Languages – **Python, Java, C, C++, MATLAB (basic), JavaScript (basic), Bash.**
- Proven Experience in Making **AI – based Conversational Bots** – (**RASA, Dialog flow, Botpress**).
- Handled data using **database management systems** – **SQL (MySQL), NoSQL (Cassandra, MongoDB).**
- Familiarity with containerizing applications (**Docker**) and deployment cloud platforms (**GCP, AWS**).
- Strong Command over **Version Control Systems** –**git (GitHub, Bitbucket).**
- Able to **work independently and collaborate within a diverse group.**
- Superior **communication skills (oral/written)** and possess strong **leadership skills.**
- Multilingual: Proficient in **English, Hindi, and basic skills in French.**
- **Self-Motivated and Detail-Oriented Individual.**

EXPERIENCE

MACHINE LEARNING INTERN

SEPTEMBER 2020 – DECEMBER 2020

VAMRR TECHNOLOGIES PVT. LTD., BANGALORE

- Designed and led the development of Health Assistant Bot using RASA stack and trained BERT- that takes in health history and advises users preliminary procedures of treatment.
- Identified new problem areas in bot, integrated voice support via Google Cloud API, and deployed it on GCP cloud platform.
- Completed reviews of codes, requirements, and project plans, collaborated with front-end and UX teams to integrate bot in Application.
- Assisted multidisciplinary projects in areas such as virtual reality, human-computer interaction.

AI RESEARCH AND DEVELOPMENT INTERN

AUGUST 2020 – SEPTEMBER 2020

LAWNICS, JAIPUR

- Led the Company research in Legal Automation using Natural Language Processing- devised recommendation systems using topic embedding and vector space approaches to find precedents and statutes, matching the in-hand criminal case.

- Replicated reviewed methods and worked on refined approaches suiting in-hand data, its information retrieval with continuous iteration of preserving the better results.
- Presented the research as a company representative, in **Artificial Intelligence for Legal Assistance (AILA)** track of **Forum of Information Retrieval (FIRE)** Conference held in December 2020.
- The proposed approach for finding precedents **achieved highest Precision @ 10 score** of 0.1 and the **statute mapping algorithm ranks second best in terms of BPREF** score of 0.2812.

CHATBOT DEVELOPER INTERN

JUNE 2019 – AUGUST 2019

FUSION INFORMATICS, AHMEDABAD

- Researched deployment feasible technology and use case suiting implementation practices- amongst existing tech stack of bots – RASA, Botpress, Dialogflow.
- Developed Initial Prototype for rigorous testing alongside setting up a continuous integration and development pipeline.
- Accumulated bulk conversational data through end-user testing of prototype.

PROJECTS

RHETORICAL ANALYSIS AND CLASSIFICATION OF POEM TEXT

- Designed supervised feature-based recommendation system that recommends poetry based on similar rhetorical theme.
- Scraped, pre-processed, and analyzed poetry data applying various supervised and unsupervised techniques to find and cluster similar rhetorical themed poems.
- Documented the system with results derived from applied algorithms and published the findings in IJSVR.

PERSON RETRIEVAL BASED ON COGNIZABLE HUMAN DESCRIPTIONS

- Built using amalgamation of Computer Vision and NLP based approaches- the intended system takes in verbal user described attributes to identify a person in given video surveillance footage.
- Constructed the pipeline of converting speech to text, identifying CRFs from text and mapping the extracted attributes to video frames with an accuracy of 94.8%.
- Utilized Mask RCNN for semantic segmentation and identification of subjects in training data frames of CCTV footage, fine-tuned EfficientNet – B5 for each soft biometric targeted, e.g., torso color, gender.
- The achieved results were 10% higher than the reviewed method results.

STACKOVERFLOW ASSISTANT BOT

- Formulated a bot that responds to the user query with the best suiting stack-overflow thread- utilizes SVM feature classification technique to categorize user intent and query type.
- The dialogue generation model makes use of trained StarSpace Embeddings to match relevant Stack Overflow Queries and uses pre-trained Chatterbot for chit-chat with user.

PNEUMONIA CLASSIFICATION

- Set on task of pneumonia classification- achieved an accuracy of 92% using a training set of only 10 images.
- Researched and reported performance comparisons of various suiting deep learning techniques such as– meta learning and ensemble model approaches.

PUBLICATIONS

- Arora, J., Pandya, U., Shah, S., & Doshi, N. (2019). Survey-Pollution monitoring using IoT. *Procedia Computer Science*, 155, 710-715. Orally presented research at FNC 2019 conference proceedings held in Halifax, Canada
- Arora, J., & Bharti, S. K. (2021). Rhetorical Analysis and Classification of Poem Text. *International Journal of Semiotics and Visual Rhetoric (IJSVR)*, 5(1), 57-71. doi:10.4018/IJSVR.2021010105
- Arora, J., Patankar, T., Shah, A., & Joshi, S. (2020). Artificial Intelligence as Legal Research Assistant. In *FIRE (Working Notes)* (pp. 60-65). Orally presented research at Forum of Information Retrieval – 2020.

CERTIFICATIONS

- Deep Learning Specialization (Series of 5 Courses), DeepLearning.AI (Coursera).
- Natural Language Processing, Higher School of Economics (Coursera).
- NLP with Classification and Vector Spaces, DeepLearning.AI (Coursera).
- NLP with Probabilistic models, DeepLearning.AI (Coursera).
- NLP with Sequence Models, DeepLearning.AI (Coursera).