Bhavul Gauri

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SUMMARY

Applied ML Researcher/Engineer with 6.5 years of experience in building scalable ML systems. Expertise in Natural Language Processing, and Recommendation Systems, along with respectable experience in computer vision, and backend. Research-oriented ML Generalist interested in solving hard problems to bring social impact with AI. Enjoy mentoring.

EDUCATION

BITS PILANI University | Goa, India   Aug 2011– Aug 2016
- Master of Science, Mathematics
- Bachelor of Engineering, Computer Science

EXPERIENCE

Meta - Facebook | London, United Kingdom   Jul 2021 – Present
Role: Senior Machine Learning Engineer
- Leading the workstream on user understanding, with a focus on improving Reels consumption, for 2Bn+ MAUs
- Working with Graph ML, Clustering, Transformer & Multi-Task Multi-Label Two Tower Sparse Neural Network models

Zapr Media Labs (now Samsung R&D Institute Bangalore) | Bangalore, India   Oct 2018 – May 2021
Role: Research Scientist (ML Tech Lead)
- Led NLP and Ranking Efforts for the company supporting 3 MLEs / Data Scientists, built novel NLU systems for voice bots
- Owner for recommendation system behind Dekho content streaming app which had 1M+ downloads on Play Store

Directi – Endurance International Group | Bangalore, India   Jan 2016 – Sep 2018
Role: Software Development Engineer II
- Developed a Logo generator using genetic algorithms and computer vision, Used word2vec to suggest ticket resolutions
- Worked upon back-end billing systems that handled 5M+ MAUs by integrating WeChat, Paypal and PayU APIs for resellers

SKILLS

Programming: Python, Java, C++, Hack, JavaScript
Data stores: SQL, MongoDB, Hive, Presto, Spark, Redis, AWS RDS, DynamoDB, Elasticsearch
ML Frameworks: PyTorch, TensorFlow, Huggingface, scikit-learn, OpenCV, TorchRec, Rasa, Numpy, Plotly, ANN, A/B, SpaCy
Deployment/Monitoring: Flask, Django, Jenkins, REST, AWS, GCP, Lambda, Grafana, Docker, PySparNN

PROJECTS

User and Video Understanding Models | Facebook & Instagram   Sep 2021 – Present
- Developed central user interest models by combining cross-domain multi-modal engagement signals from FB Groups, Watch, Instagram and News Feed using a TTSN model, produced stat-sig gains of +0.75% Cold-Start DAU for Reels
- Computed meaningful user & creator connections by using TF-IDF, Collaborative filtering and authoring a large 46B edges Graph embedding model to model user, videos, creator, interests in same space, led to +1.1% 10-min DAU for FB Watch

NLU Models for Voice Bots for Customer Support | Zapr Media Labs   May 2020 – Apr 2021
- Led a team of 3 MLEs to build multi-intent detection using LSTM based multilingual segmentation, achieved 0.85 f1-score
- Fine-tuned XLM-Roberta LM to add mixed-code intent and entity extraction support into Rasa chatbot framework, leading to 60% GCP cost reduction and improved entity extraction f1-score from 0.75 to 0.88 on e-commerce bot
- Designed a pipeline to automate building a chatbot from audio recordings by using XLM-R, UMAP and DBSCAN clustering for discovering intents, and graph algorithms for conversational flow modelling reducing engineering efforts by 83%

Recommendations for "Dekho" Content Streaming App | Zapr Media Labs   Dec 2018 – Apr 2020
- Created a hybrid recommender system based on content similarity and popularity that served 100k+ MAU on Android
- Deployed BERT, fastText and classical NLP models for similarity and utilized active learning to build dataset for similarity
- Authored an interpretable and configurable ranking system, scaled up system to respond in <100ms SLA

PUBLICATIONS & TALKS

Journey to the Imagenet Moment for NLP	Talk	2021
Centroid Based Binary Tree Structured SVM for Multi-Classification	IEEE Conference - ICACCI	2015
Distributed Multi-class SVM for Large Datasets	ACM Symposium - WCI	2015