

Sahil MALIK

PERSONAL DATA

PLACE AND DATE OF BIRTH: India | 19th July 1992
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WORK EXPERIENCE

Current
AUG 2015

Staff Engineer Software Development at XPERI CORPORATION
NLP Conversation Engine

Redesigning the rules/template based conversation engine to a more machine learning/A.I. based system. My work involves developing scalable and efficient solution to process natural language code in python. It involves using tools like NLTK, Scikit-learn, CRF to do NER-intent recognition and provide custom solutions to customers for voice interface. The product has been deployed in different languages like english, spanish, portuguese, german, italian etc. The product is currently being used by top cable providers in the world. [Product Video](#)

Stats Pipeline

Designing and developing the stats collection pipeline using serverless architecture, focusing on minimising loss of events, making it available to any potential customer (internal/external) for immediate consumption. As an entertainment NLU service we generate a lot of stats, we need to be diligent about preserving those in databases and may need to be consumed by internal services for potential improvements and failure analysis.

Tech: Python3, AWS lamda, AWS SNS, AWS SQS, PostgreSQL, EKS.

Search & Recommendation

Build, deliver and support cutting edge Search and Recommendation product to some of the top tier cable operators across the world. Prototyping new ideas and integrating the same with the base product while maintaining compatibility across versions.

JUL 2014-AUG 2015

Software Engineer at SAMSUNG RESEARCH INSTITUTE, Bangalore
App Development for Smart Android Printer

Responsibilities included designing and development of apps for a smart android OS based printer.

Primary focus was to enforce code standards and detecting memory leaks by writing custom utilities as plugins for IDE. Resulted in app size reduction by 40 percent and better code coverage.

DEC 2013-JUNE 2014

Intern at SAMSUNG RESEARCH INSTITUTE, Bangalore
BYOD for MFP (Multi-function Printer)

Implement this for the remote devices which are connected to MFP over wireless means. It involves discovery, selection, pairing, syncing and providing sophisticated user interface to user, perform jobs based on the requirement.

EDUCATION

APRIL 2014	B.E. in COMPUTER ENGINEERING, Thapar University , Patiala CGPA: 8.82/10
MAY 2010	XII th H.D. Sr. Sec. School, Rohtak 91.6%
MAY 2008	X th D.A.V. Sr. Sec. Public School, Jind 92%

SCHOLARSHIPS AND ACHIEVEMENTS

JULY 2010- APRIL 2014	Full Tuition fee waiver during graduation
MAY 2018	First Prize in "TIVO Global Hackathon".
APRIL 2019	Top Patent Filing Award.

PROJECTS

MAY 2018	PERSONALIZED QUERY MISTAKE CORRECTION ON A CONVERSATION SYSTEM This project was for "Tivo global hackathon", where we observed from real time customer logs that a significant number of the queries were failing just because ASR was not able to recognize what user was trying to convey due to accent, regional variations etc. eg. Wrong: "Game of Phones" Correct: "Game of Thrones". To correct the mistakes done by user during a conversation by learning the previous mistakes of the user. I used LSTM neural network to do sequence modelling, language models to predict the corrected query which was intended by the user.
MAY 2018	PERFECT LOAN EVALUATOR Coded the project in Java using MySQL Database. MIS application to automate the tasks of Loan Processing Division like maintaining information of client, verifying information provided by client, checking eligibility of a client whether loan can be issued or not and finally issuing the loan.

PATENTS

FEB 2016	DYNAMIC COMPUTED SNEAK-PEEK PREVIEW VISUALIZATION PUBLICATION DATE: 25/08/2017, Indian Patent Office.
MAR 2018	METHODS AND SYSTEMS FOR PERFORMING CONTEXT MAINTENANCE ON SEARCH QUERIES IN A CONVERSATIONAL SEARCH ENVIRONMENT. Patent Link W.O. Patent US 18/024360 Status: Published

TECHNICAL SKILLS

PROGRAMMING : Python, C, C++, Java
TOOLS & TECHNOLOGIES : NLP, Docker, Kubernetes, AWS, Spacy, Scikit-learn, Scipy, Numpy, Git, MySql, Android, Wireshark, RASA-NLU, Locust, Fuzzywuzzy, Fuzzyset, NLTK, Gensim, Word2vec, Pytest, PostgreSQL, Unicorn, Redis