

## Résumé

### Yasin Ali Khan

Software developer with 8+ years industry experience from large scale software products design to deployment, Data Engineer(NLP/ML/AI), DevOps.

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💡 Research

📁 Projects

📜 Certificates

#### A. My Tech Stack:

Python, Flask, Django, MongoDB, PostgreSQL, MySQL, Redis, RabbitMQ, Docker, Nginx, Gunicorn, Linux, Bash, Jenkins, Celery, Selenium, Git, C, C++, PyTorch, Tensorflow, Huggingface, Fairseq, pyctcdecode, Jupyter, Numpy, Scipy, Scikit-learn, Pandas, Matplotlib, opencv, NLTK, kaldi, g2p-seq2seq.

#### B. Industry Experience:

##### Sr. Software Engineer (TigerIT Bangladesh Ltd): Feb 2019 – Present

TigerIT provides end-to-end credential management solutions for government & state agencies from National ID, Voter Registration, e-Passports, Border Control, Driving License to Vehicle registration and tracking, enterprise solutions to large banks, telecom companies and multinational companies.

1. Developed production pipeline for Generalized Speech Recognition System, Multilingual Machine Translation(Neural MT),Text to Speech (English,Bengali), Language Modeling/Integration. Improved Bengali Phoneme Transcription Standard.
2. Worked on [Commchat](#) Android app's multilingual machine translation, speech recognition, text to speech, phonetic typing features.
3. Worked on [KinderMate](#) Android Kids Video app's Automatic question answering, Topic modeling, turn text response generation, text/document similarity(LDA, tf-idf), exceptional question/slang filtering features.
4. Developed Grapheme to phoneme (Bengali) system using different sequence modeling tools.
5. Worked on Number plate text detection & recognition systems in a robust environment (CNN, RNN, CTC, GAN, Attention Model)
6. Worked on Face detection & identity verification system for Rohingya & Bangladeshi people.
7. Developed [Audio pre-processing system](#) that extracts only audio part from noisy wavs that extensively reduces human effort to prepare quality speech data from collected noisy speech data.
8. Fine tuned/trained [wav2vec2](#), BERT, XLSR, WMT/NMT, [Fairseq](#) (LSTM, self-attention), DeepSpeech,[kaldi](#) models, data augmentation & ML model deployment in production.
9. Developed an app for collecting/editing text & speech data visually.
10. Developed systems for Document Similarity(TF/IDF), Answer/Information retrieval, Sentiment analysis, Audio Keyword Search, Audio Events Detection.
11. Image tampering classification(using VGG etc.), deepfake detection, GPU intensive model training.
12. Design Experience with CNN, RNN, LSTM, seq2seq model, [Transformers](#), CTCWordBeamSearch, GAN, GPT-2, T5, BERT, Batch Normalization, Dropout,Attention Model, Data augmentation, GPU train optimization, Parameter tuning, Model Architecture Research etc.
13. Lead a data collection team for machine learning projects.

##### Sr. Software Engineer (Samsung R&D Institute(SRBD)): May 2016 – Feb 2019 (~2 years 9 months)

SRBD is the first R&D hub of a multinational company in Bangladesh that drives mobile app development & commercialization, mobile platform verification, testing & local business support.

1. Developed full pipeline for Bengali Speech Recognition System with custom Bengali phonemes that earned a funded project from Samsung HQ (Seoul,South Korea) & awarded [SRBD Icon of The month](#) (July-August 2018) for outstanding contribution to the development of Bangla Speech Recognition System.
2. Lead a team of 5 Masters Students from [BUET](#) with [professor Muhammad Abdullah Adnan, PhD\(California San Diego,UCSD, USA\)](#) on the development of large scale Bengali Speech Recognition System for [Samsung Bixby AI assistant](#), from data collection to data cleaning, deep learning architecture research, development, training, tuning & optimization.
3. Published at Samsung: "[Customizing Grapheme-to-Phoneme System for Non-Trivial Transcription Problems in Bangla Language](#)" in the North American Chapter of the Association for Computational Linguistics (NAACL-HLT 2019), At Minneapolis, USA.
4. Developed Intelligent Chat Agent (web) to perform Real Time UI/UX Expression based on Chat Context. (NLU, LDA, Corpora Based Feature Mapping) using [Context Based Search Using LDA Topic Modeling Algorithm](#).
5. Contributed on codebase improvement for Samsung Android SDK & Tizen SDK([Samsung Health Android SDK](#), [Samsung In-App Purchase SDK](#), [PEN.UP](#), [Foldable display](#) etc), used different libraries [deeplearning4j](#), [LDA-NLP](#), [EventBus](#), [Kryonet](#), [Toasty](#), [ormlite-with-sqlite](#), [Firebase](#) etc, around various concepts: ChatBot, Bluetooth, Location based app, [openstreetmap](#) APIs, Games AI, Google Map([openlayers](#)), Sockets etc.

## Résumé

6. Worked on [IoTivity](#) based IoT Hub-Client Bi-directional Communication on Linux & Tizen. Developed client-server app on IoT stack of IoTivity in Linux & [ARTIK](#) board. Developed Distributed Client State Monitoring from Central Android Application (IoT).
7. Modified [ColorPhun](#) Game(Android) with Deeplearning AI to play between human and AI agent.
8. Developed some C, C++ [Tizen apps](#) & Wearable Smart Watch apps for Gear S2,S3,Fit2.
9. Tracking/reproducing bug reports from app developers & app user queries, find out solutions. This helps Samsung & Tizen Developers a lot in the process of monetization using Samsung & Tizen SDKs. Exposed with Zendesk, Confluence.
10. Smart documentation, agile activity, guided Samsung interns to reach their project goals on time.
11. [Open Source Activity](#): Samsung Developer advocacy, [prepared dev tutorials](#), provided platform (C,C++ ,Web) support to Samsung devs.

**C. Education:** Bachelor in Computer Science & Engineering(2011-2015), [Chittagong University of Engineering & Technology](#), Bangladesh.

*Thanks for your patience.*