Xiaoqin Feng (冯小琴)   **Curriculum Vitae**

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Online version: https://xqfeng-josie.github.io/resume/cv

Last updated: October 6, 2022

Google Scholar ⊕

XqFeng-Josie ○

INTRODUCTION

I am a Senior Speech Algorithm Engineer at Mobvoi(Beijing). My working direction is TextToSpeech(TTS), in which I primarily focus on NLP analysis(TN/G2P/Prosody/Stress/Style), Model optimization(NLP/TTS), Emotional TTS, and Online Server Application, all of this based on cross-lingual domain. Personally, my biggest motivation is using the world's multi-modal information to solve problems in our daily life.

EDUCATION

Master Student Software Engineer (M.Sc.)   Oct. 2016 – Jan. 2019

Beijing University of Technology BJUT; overall grade: 86 (max. 100) between "Very Good" and "Good"   *Beijing, China*

- **Thesis**: *"Research on multi-scene video intelligent processing system and scheduling management algorithm"*
- **Advisors**: *Dr. Zhangqin Huang*

Bachelor Student Computer Science (B.Eng.)   Sep. 2012 – Jul. 2016

Southwest University for Nationalities SWUN; overall grade: 3.66 (max. 4.0), "Top 5" of 154 students   *Chengdu, China*

- **Thesis**: *"Research on Intelligent Laboratory Management System"*
- **Advisors**: *Dr. JianYin Chen*

PROFESSIONAL EXPERIENCE

Senior Speech algorithm Engineer   July. 2019 – Present

Mobvoi AI-Platform   *Beijing, China*

- **Summary**: focus on TTS(TextToSpeech)/NLP, lead some independent projects
- **As mentor**: working with 5 interns
- **As researcher**: NLP of TTS(G2P/TN/Prosody/Stress)、Unified-Frontend of TTS(e2e)、Emotional-TTS
- **As developer**: optimize/develop most modules of frontend of tts、develop/co online/portable server to support toB/toC projects(block/streaming/concurrent/http/grpc), all of this based on cross-lingual domain.
- **Involved techniques**: Language: C/C++, Python, Bash; Algorithm: Cache, FST, CRF, LSTM, WordEM, Pretrain, Bert, Emotional Analysis, Contrastive Learning, Semantic Analysis, Knowledge Distillation, Multi-Task; Tools: Linux, Tensorflow, Pytorch, Redis, Mysql, Docker, gRPC, XML, AWS, MicrosoftCloud, GoogleCloud, AlibabaCloud, TencentCloud, etc.
- **Best results**: tech-website: voice maker、DupDub(oversea); one co-paper for NLPAI2022 + three patents(published); one co-paper + two patents(on-going)

Algorithm Engineer(Intern)   Aug. 2018 – Dec. 2018

TAL AI Lab   *Beijing, China*

- **As researcher**: Knowledge Tracking : data analysis 、feature engineering、graph embedding、model of TF、train and ablation analysis etc. (co- with Dr.Wang)
- **Involved techniques**: Language:Python, Bash; Algorithm: Feature Engineering, Graph Embedding, Word embedding, LSTM, GNN etc.; Tools: Tensorflow, AliCloud, Google Codelab, Seaborn, etc.
- **Best results**: Best Intern of 10 members 、one co-paper for AIED2019、regularization opportunity

DeeCamp AI Lab (Member)   Jun. 2018 – Aug. 2018

DeeCamp - co with Peking University   *Beijing, China*

- **As researcher**: Movie Recommendation based on Knowledge Graph：data analysis、feature engineering、strategy of sample generation、knowledge extractor and link prediction of KG、model of Keras、ablation analysis、presentation(co with two Ph.D. three MS.)
- **Involved techniques**: Language:Python, Bash, JavaScript; Algorthm: Feature Engineering, Data Mining, Recommendation, etc.; Tools: Keras ,Seaborn, Ucloud, Google Codelab, etc.
- **Best results**: excellent team of 20 groups, internship opportunity

Ali Big Data Competition (Competitor)   **Sep. 2017 – Dec. 2017**
TianChi - co with CCF   *Bwijing, China*

- ◦ **Subjects** ： User Location Prediction: Based on the mass data provided on user consumption, determine the current store location of the user.
- ◦ **As researcher**: data analysis、 feature engineering、 strategy of sample generation、 model ensemble、 ablation analysis
- ◦ **Involved techniques**: Language:Python, Bash, sql; Algorithm: Data Mining, Feture Engineering, Decision Tree, LR, XgBoost, GBDT, RF, ensemble learning etc.; Tools:Seaborn, MySql, AliCloud, etc.
- ◦ **Best results**: Preliminary contest: 52/2845 、Finals：19/2845

Own Projects   **Sep. 2016 – Aug. 2018**
IOT-Lab   *Beijing, China*

- ◦ **Ali Tianchi Competition**: e.g.O2O coupon usage predictions： code research retrieval
- ◦ **TextCNN**: Methods are implemented based on TF-IDF, xgboost, lgb, textcnn, etc.
- ◦ **Dialogue predictions**: simmc2 task： Methods are implemented based on Bert、 GPT、 Multimodal, etc.
- ◦ **TAL AI Lab**: FutrueCamp: Based on knowledge tracking;best member and get an internship
- ◦ **IoT Bus HD Intelligent Video Surveillance**: programming and development of application algorithms
- ◦ **IOT-AI Video Analyser**: programming and structure development of application algorithms
- ◦ **Involved techniques**: Python, Bash, C++; Linux, Mysql, WebSocket; CV, NLP, Data, MLDL; etc.
- ◦ **Best results**: system release 、 thesis experiment

EXPERTISE AND SKILLS

Expertise is context- and comparison-dependent. Here states the years of experience in terms of use, also indicates a subjective estimation of the level of expertise (either *elementary*, *intermediate*, *experienced*, or *expert*):

- **Text To Speech**: *NLP Analysis* (text normolization, segmenter, polyphone, g2p, prosody, unified-frontend *experienced*); *Emotion-TTS* (style tag, stress, emotion analysis, contrastive learning, unsupervised learning *experienced*); *Backend Model* (Acoustic models、 Vocoder *elementary*);

- **Machine/Deep learning**: *Basic Knowledge* (continuing： stanford's courses, Andrew Ng's Deep Learning, tech- blog, github, huggingface, open-source projects etc.*intermediate*; *Data analysis* (5 years of study and work, numpy/seaborn/pandas/t-sne/etc., *experienced*); *Service Development* (3 years of industrial c++ server engineering, good at logic/structure, using C++/Python/etc., *experienced*).

- **Language**: *C/C++* (3+ years, *experienced*); *Python* (5+ years, *experienced*); *Writing* (3+years, good writing habits.) I speak native Mandarin; elementary English.

SCHOLARSHIPS AND AWARDS

CCF-Ali Big Data Competition   **Sep. 2018**
Good,19/2845   *Beijing, China*

China National Scholarship   **Sep. 2016**
Southwest University for Nationalities   *Chengdu, China*

Outstanding secretary of Youth League branch Scholarship   **May 2014**
Southwest University for Nationalities   *Chengdu, China*

Annual Excellent Student Innovative Project   **Sep. 2013**
Southwest University for Nationalities, 2nd Award   *Chengdu, China*

Outstanding Student Scholarship   **Jun. 2013,Jun. 2014**
Southwest University for Nationalities   *Chengdu, China*

Teaching Experience

Lecture - Embedded System Design Practice   **2018**
Winter

As teaching assistant at BJUT, for M.Sc. students, approx. 80 students each year.

Company - Speech & NLP   **2021-2022**
Annual

As a mentor at Mobvoi, for interns (students), avg. 3 students each year.

Publications

Proceedings

- **Feng X**, Xie R, Sheng J, et al. *Population statistics algorithm based on MobileNet.* Journal of Physics: Conference Series. IOP Publishing, 2019(ICSP'19), 6 pages. https://iopscience.iop.org/article/10.1088/1742-6596/1237/2/022045/pdf.

- Wang Z, **Feng X**, Tang J, et al. *Deep Knowledge Tracing with Side Information.* International conference on artificial intelligence in education. Springer, Cham,2019(AIED'19), 5 pages. https://arxiv.org/pdf/1909.00372.pdf.

- Rong Xie, **Feng X** *A method of quick edge detection based on Zynq.* International Conference on Cloud Computing and Internet of Things, 2018(CCIOT'18), 5 pages. https://ieeexplore.ieee.org/document/9032641.

- Sheng J, **Feng X** *Research on the Internet of Things Platform for Smart and Environmental Protection.* International Conference on Cloud Computing and Intelligence Systems, 2018(CCIS'18), 5 pages. https://ieeexplore.ieee.org/document/8691352.

- Zhang J, **Feng X**, Chen Y, et al. *Prosody Prediction With Discriminative Representation Method.* International Conference on Pattern Recognition and Machine Learning，2022(PRML'22), 5 pages. https://ieeexplore.ieee.org/abstract/document/9882251.

Patents

- **FENG XIAOQIN**,LEI XIN,LI ZHIFEI. *Polyphone labeling method and device, and computer readable storage medium.* Mobvoi(*algorithm*),2019,CN111078898A.patent.pdf

- **FENG XIAOQIN**,LEI XIN,LI ZHIFEI. *Speech synthesis method and device and computer readable storage medium.* Mobvoi(*algorithm*),2020,CN110970013A.patent.pdf

- **FENG XIAOQIN**,LI NA,LEI XIN,LI ZHIFEI. *Polyphone labeling method and device, and computer readable storage medium.* Mobvoi(*application*),2020,CN111145724A.patent.pdf

- **other 2 co-patents published**: CN111079428A.patent.pdf CN111178042A.patent.pdf

Theses

- **Xiaoqin Feng**. 2019. *Research on multi-scene video intelligent processing system and scheduling management algorithm.* In the Institute of Software Engineering. Beijing University of Technology. 78 pages. **Master Thesis**. https://kns.cnki.net/master_thesis.pdf

- **Xiaoqin Feng**. 2016. *Intelligent Laboratory Management System.* In the Institute of Computer Science and Engineering. Southwest University of Nationalities. 37 pages. **Bachelor Thesis**.