Hanqing Guo

Education

2017–2018 **Master**, *Ball State University*, Muncie, *4.0/4.0*.
Computer Science

2011–2015 **Bachelor**, *Chongqing University of Post and telecommunication University*, Chongqing, *3.2/4.0*.
Telecommunication Engineering/Math

Research Area

2018.6–Now **Real-time human activities recognition by using 3D radar image reconstruction and LSTM**.
Using MIMO radar (walabot)collect raw signals, then use signal processing technique construct 3D images, concatenate 3D images to videos to train LSTM machanism. `https://hanqingguo.github.io/walabot-3d-image`

2017.1–2018.5 **DSIC: Deep Learning based Self-Interference Cancellation for In-Band Full Duplex Wireless**.
We proposed a real-time non-linear self-interference cancellation solution based on **deep learning**, and implement our design in software defined radio platform **Gnuradio** with radio device **usrpX310** to test multiple modulation schemes(BPSK,QPSK,16PSK).

Project

2018.1–6 **Deep Watch Dog**.
This project is giving users those who installed camera and system an alert when some strange persons and cars appear. `https://github.com/hanqingguo/Deep-Security/tree/master/System`
Technical Detail: Implement YOLOv3 to crop human pictures, use CNN extract features, compare family members feature (saved in database) with stranger features to alert stranger appearing

2017.9–12 **Google Trend Data Analysis**.
Analysis Google trend hot topics and show most frequency words of related News. `https://github.com/hanqingguo/googleApi`
Technical Detail: Get hottest google trends by Python Api, recursively get related topics from first list of trends, then build Google Search Engine and Google Api to search those topics and grab news and articles, use **soup** to parse useful words, then did wordCount process in Hadoop server. Visualize wordCount result by wordCloud to show hottest words in Internet.

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2017.10–12 **Children Behavior Data Analysis**.

This project involves with a Startup Company and UESTC, I am in charge of Server processing collected data. The system collect children behavior, and our server analyze sleep, emotion, cry data and analyze data in sliding window to get what time it most likely happens in this time window `https://hqguo@bitbucket.org/njwhite777/infant_activity_reporting.git`.

Technical Detail: It's a commercial level code, which use Hadoop and hbase to save data. Then write java functions to make sure retrieve and put data in 1 minutes. Write java to Python highway to encapsulate java API to make it possible running java API in Python, use python to statistic data and call Java side to save. Use crontab make our process running every midnight.

Languages

Python, Java	**3 years Experience**
JS,swift4, C++	**1 years Experience**

Frame Work

Front End	Angular1, Angular2, HTML, CSS	Back End	NodeJS, Django
Data Base	MongoDB, Sqlite, Hbase	Machine Learning	Tensorflow, Pytorch

Personality

- I am a self-motivated man and good at thinking then trying new ideas, I learnt coding in my undergraduate even though I was major in telecommunication at that time. I will put all my passion on work because I like coding and do something interesting to make world a little bit different

Publication

Paper ***H. Guo***, *N. Zhang, S. AIQarni, and S. Wu. DSIC: Deep Learning based Self-Interference Cancellation for In-Band Full Duplex Wireless. arXiv preprint arXiv 1811.01498.2018, , submitted to IEEE ICC 2019*

Paper ***H. Guo***, *J. Xu, S. Zhu, and S. Wu. Realtime software defined self-interference cancellation based on machine learning for in-band full duplex wireless communications. International Conference on Computing, Networking and Communications (ICNC), Maui, Hawaii, USA., March 5-8, 2018*

Paper ***H. Guo***, *J. Xu, S. Zhu, and S. Wu. In-band full duplex wireless communications and networking for iot devices: Progress, challenges and opportunities. Elsevier Future Generation Computer Systems Journal, accepted, Oct. 2017*

Paper *Q. Liu,* ***H. Guo***, *J. Xu, A. Kageza and S. Wu. Non-contact Non-invasive Heart and Respiration Rates Monitoring with MIMO Radar Sensing, Globecom 2018, Abu Dhabi, UAE, accepted, Dec. 2018*

Paper *J. Xu,* ***H. Guo***, *A. Kageza and S. Wu. Removing background with Semantic Segmentation Based on Ensemble Learning 12th EAI International Conference on Mobile Multimedia Communications, Qingdao, China, June, 2018*

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