Yang Zhao

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Education

Imperial College London, London UK 2018 – Present

MSc Communications and Signal Processing

University of Liverpool, Liverpool UK 2016 – 2018

BEng Communications and Electronics, with distinction

Xi'an Jiaotong-Liverpool University, Suzhou CN 2014 – 2016

BEng Telecommunications, with distinction

Experience

China Mobile Group, Guangdong CN 2018

Summer Intern

- Implemented MRO coverage analysis
- Maintained and scheduled emergency communication system

China Mobile Group Design Institute, Guangdong CN 2017

Summer Intern

- Investigated and summarised solutions of NB-IoT and FDD LTE
- Simulated FDD coverage and performance by cell distribution

Research Projects

Signal Optimisation for Wireless Information and Power Transmission 2019 – Present

Start from *I–V* characteristics of the rectifier, we proved that a novel nonlinear energy harvester model leads to a larger rate-energy region, and a two-fold benefit can be achieved by a superposition of modulated information waveform and deterministic *(e.g. multisine)* power waveform. Also, TS receiver is preferred for few tones and low SNR but overpowered by PS in opposite cases. It may bring more opportunities to IoT and accelerate the progress of powering trillions of devices wirelessly.

Cross-Layer Optimisation for 4G Broadband Wireless Communication Networks 2018

We implemented an adaptive low-complexity cross-layer design across the PHY and MAC layer for OFDM systems. PD and M-LWDF scheduling were combined with M-MWC and M-WF allocation for flexible control. With a proper packet selecting strategy, the proposed model increased the resource efficiency while significantly reduced delay, outage and packet drop rate. Support for haptic-related applications as VR was investigated.

Courseworks

- Arduino: 3D scanner, digital clock, smart toy car
- Signal: adaptive filter design, sparse signal recovery, FRI signal sampling and reproducing
- Vision: image categorisation by RF, digit generation by GAN
- Wireless: spatiotemporal DS-CDMA system simulation, LTE SU-MIMO performance evaluation

Skills and Achievements

- Focus: communications, signal processing, machine intelligence
- Backgrounds: array processing, circuits, cryptography, EM, information theory, power, RF, wavelets
- Strengths: problem-solving, self-learning, team-working
- Languages: MATLAB, C, C++, Python
- Honours: university achievement award(2016), IET student prize(2018)

Last updated: March 24, 2019