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 superposition of modulated information waveform with deterministic *(e.g. multisine)* power component provides a two-fold benefit. Also, TS receiver is preferred in few-tone and low-SNR cases but overpowered by PS in opposite situations. 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