Chen Qian

Contact Information

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Education

Bachelor of Communication Engineering (Expected Graduation: Jul. 2016)
Beijing University of Posts and Telecommunications

- **GPA**: Overall: 92.11/100 (top 1% of 589) Major: 94.24 Math–related: 96.18

Publications

[1] **C. Qian**, H. Qian and F. Gao, "Spectrum sensing and SNR walls when primary user has multiple power levels," to appear in *Proc. IEEE Int. Conf. Commun. China (ICCC)*, Shenzhen, China, Nov. 2015.

[2] **C. Qian**, F. Gao, H. Qian, and T. Zhang, "Sensing and recognition for multiple primary power level scenario with noise uncertainty", submitted to *IEEE Trans. Wireless Commun* in Nov. 2015.

Research Experience

Institute of Information Processing Oct. 2014 to Present
Department of Automation, Tsinghua University

- Supervisor: *Professor Feifei Gao*
- Program I: Spectrum Sensing When Primary User has Multiple Transmitting Power Levels (Completed)
  - Applied GLRT method to compute the decision region for each hypothesis $\mathcal{H}_k$.
  - Proposed power recognition strategy and proved its efficiency by simulation.
  - Analyzed *Power Ambiguity* and *SNR Wall* phenomena.
  - Proposed Cooperative Sensing method to improve the sensing performance.
  - Finished two papers as the first author (one conference & one journal).
- Program II: Optimized Design for Content-Centric Networks with Machine Learning Techniques (In Progress)
  - Learned various Machine Learning algorithms, such as ANN.
  - Got familiar with the theoretical architecture of *Content-Centric Networks*.
  - Currently investigating the possibility of optimizing the design of *Pending Interest Table* (PIT) and *Forwarding Information Base* (FIB) using ANN and SVM.

Project Experience

Interactive Projection Screen May. 2014 to May. 2015

- Project Aim & Focus: To equip projection with all functions of a touch screen.
- Realized communication among four major modules by socket programming.
- Localized users' events by image processing.
- Improved system accuracy to over 95% through algorithm refining.

Self-balancing Car Based on Arduino June. 2014 to Aug. 2014

- Project Aim & Focus: To design and invent a self-balancing car based on Arduino.
- Enabled the car to balance itself using PID method.
- Enabled the car to straight forward, turn and adjust its speed under commands.

Computer Skills

- Computer Languages
  C++, C, Java, VHDL, PHP, SQL, HTML, Assembly
- Tools
  MATLAB, Visual Studio, Eclipse, Quartus II, LaTeX, SQL Server, Final Cut

Honors

- National Scholarship in each school year:
  2012–2013 (Rank 3 out of 597) 2013–2014 (Rank 6 out of 600)
  2014–2015 (Rank 1 out of 589)
- First Prize in "Challenge Cup" Beijing College Student Curricular Academic Science and Technology Works Competition (Top 10% of over 1000 participating teams) May. 2015
- National First Prize on "CCTV STAR OF OUTLOOK" English Talent Competition (Rank 1 out of 123 participants) Jul. 2014
- Second Prize in Beijing Division on National Undergraduate Mathematical Contest (Top 7% of 30,000 participants) Nov. 2013