Jingxiang Yuan

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EDUCATION

Master of Electrical Engineering System (University of Michigan, 3.55/4.0)

- Image Processing
- Digital Communication and Coding
- Probability and Random Process
- Public Policy
- Mathematical Methods in Signal Processing
- Digital Communication Theory
- Intermediate Microeconomics Theory

Bachelor of Science of Engineering, Electrical Engineering

- Digital Signal Processor Design & Laboratory
- Digital Signal Processing and Analysis
- Programming and Data Structure
- Logic Design
- Microeconomics
- Electromagnetics (Ⅰ, Ⅱ)
- Engineering Mathematics
- Principle of Optics
- Japanese (Ⅰ, Ⅱ)

EXPERIENCE

Performance Analysis of Product Code with DPSK Winter 2013

- Calculate the likelihood of DPSK and generate a look up table
- Use Matlab to compare the Gaussian approximation of likelihood with the actual ones.
- Use Matlab to Analyze the performace of DPSK with and without product code decoding.

Defocus Magnification with Single Image (MATLAB) Winter 2013

- Remove soft shadows and highlights.
- Find edges and apply Gaussian blur estimation to the edges to find the blurriness.
- Propagate the blurriness throughout the whole region bounded by the edges with same blur estimation
- Use Photoshop's Lens Blur to generate the defocused image.

Polygraph Design (DSP Project) Winter 2012

- Design circuits for measuring skin conductivity and heart rate.
- Design algorithms in Code Composer Studio(C programming language) for its decision
  1). Applied least squared error method to find the testers' average variable skin conductivity
  2). Applied moving average method to find an average heart rate frequency for each tester so that sudden change in heart rate can be detected.
  3). Combine skin conductivity changes and heart rate variation to determine when the testers are in tension and are more likely lying.
- Won 2nd Price in the Digital Signal Processor Design & Laboratory class.

Software developer in SinYD Company Summer 2011

- Worked with Programmable Logic Controller (PLC) using STEP 7 to monitor the allocation of construction materials.
- Refined the STEP 7 algorithm and decrease the delay of PLC processing time which helped the program reading the real-time data and ended up with about 10% improvement in accuracy

Snowfall Measurement Research Fall 2010

- Used electromagnetic wave to measure the thickness of the snow layer.
- Used Matlab to simulate the measurement including: band pass filter design, amplifier design. Resulted in a proof of hardware experiment feasibility.
- Predict and analyzed the procedure of using hardware to do the hardware experiment, including: noise filtering, working condition and budget.

COMPUTER SKILLS C++, C, Matlab & Simulink, Adobe Premiere Pro, Verilog, Code Composer Studio (CCS), Maple, ADS, STEP 7

LANGUAGE Fluent in Chinese, Fluent in English, Intermediate in Japanese