

Wangshu Sun

Address: 508 Mechanics Building, Southeast University, Jiangning District
Nanjing, China 211189
Cell: (86)15651073853

Email: wangshu.sun@hotmail.com

Portfolio: <http://scarlettsan.me/>

EDUCATION

Southeast University – School of Biological Science & Medical Engineering

- B.E in Biomedical Engineering Sep.2012 – Jul.2014

Southeast University – Chien-Shiung Wu Honors College

- EECS intensive training class Sep.2010 – Jul.2012

Courses

Probability Statistics & Stochastic Process, Discrete Mathematics, Programming & Computer Fundamentals, Data Structures, Software Engineering, Computer Architecture & Logic Design, Microcomputer Systems & Interfaces, MCU Application & Design, Medical Instruments, Medical Image Processing, Neurobiology

RESEARCH EXPERIENCES

3D Shape Measurement Based on Binocular Stereo Vision

Jan. 2014 – Jun. 2014

- Accomplished 3D shape measurement in lab settings by completing camera calibration, distortion and epipolar rectification and stereo matching.
- Implemented three stereo matching algorithms – SSD, SAD, CostFilter by Matlab.
- Developed interactive GUI with sufficient information output.

Functional Brain Network Establishment and Analysis Based on EEG

May. 2012 – Apr. 2013

- Built HR-EEG graph using P300 EEG data based on Finite Resistance Network model.
- Improved original HR-EEG algorithm by changing grid orientation and applying data denoising.
- Generated Functional Brain Network with EEG data of left hand and right hand movement task.
- Analyzed network characteristics, recognized anticipated small-world property.

INTERNSHIP

Website Maintenance for Southeast University-Monash University Joint Graduate School

Oct. 2014 – Present

- Website: <http://58.192.114.199/ism/> Old: http://58.192.114.199/ism_backup/
- Rewrote CSS stylesheet according to original design with high fidelity. Redesigned HTML information architecture.
- Optimized website directory structure, set naming standards.
- Added new pages and jQuery effects.
- Adjusted web size and fonts according to user interview results. Embedded fonts, altered web align, transparency, modified image DPI and contrast.

Investigation and application of Pattern Cognition

Jul. 2013 – Aug. 2013

- Realized K-Means and Hierarchical Clustering algorithms by Matlab.

ACADEMIC ACTIVITIES

The 2012 Quadrennial Physics Congress hosted by Sigma Pi Sigma, Orlando

Nov. 2012

- Poster Session: High Resolution EEG – Cortex Potential Calculation

China Undergraduate Mathematical Contest in Modeling

Sep. 2012

- Contest Topic: Build a model to research the relationship between the wine quality and its physical and chemical indicators
- Contributed in researching the rank sum test method, participated in data processing.
- Awarded the third prize at Jiangsu Province level

RELATED PROJECTS

Medical Electronics Course Work Design I

- Designed a DDS digital function generator based on FPGA.
- Assisted in debugging analog amplifier and filter.
- Function generator could generate sinusoidal signal with a frequency between 1Hz-100 kHz, amplitude ranging from 0-10 V.

Medical Image Processing Course Work

- Developed an image processing software using C++ with MFC.
- Implemented digital image processing algorithms including median filter, frequency domain filtering, HSB to RGB, morphological contour extraction.
- Developed a DICOM image viewer.

Medical Electronics Course Work Design II

- Designed a programmable amplifier controlled by MCU digital-to-analog conversion program.
- Built and tested both the digital and analog part of an ultrasound system.
- System could emit and receive ultrasound signals of controllable gain.

Comprehensive Computer Course Design

- Designed and Implemented user interface for a MFC jigsaw game with SkinMagic Toolkit.

Virtual Instrument

- Designed a virtual spectrum analyzer and the corresponding GUI by LabVIEW.

SKILLS

Front-end Development: HTML5, CSS3, Javascript, jQuery

Desktop Programming: C++, QML, Qt, MFC, Matlab, LabVIEW

Hardware Programming: MCU, Altera FPGA.

AWARDS & HONORS

Third prize at Jiangsu Province level in China Undergraduate Mathematical Contest in Modeling	2013
Second Price for the 2nd Creative Experience Competition, Southeast University	2012
Southeast University Academic Scholarship	2011
Individual Scholarship (Honorable Mention for Social Practice)	2011
Excellent Student of Southeast University	2011

EXTRACURRICULAR ACTIVITIES

Leader of Summer Social Practice: Investigation of Village in the City Phenomenon in Nanchang City	2011
Vice Secretary of Opinion Poll Department, Chien-Shiung Wu Honors College	2011