JULIA ZHANG

BIOENGINEER

Address 23 Sunset Blvd, Houston, Tx, 77005
Telephone/ Mobile (806) 790 - 4100
Email yz60@rice.edu

EDUCATION

2013-2017 **Rice University**
B.S. in Bioengineering

GPA: 3.87

EXPERIENCE

June 2016 - August 2016

General Electric Healthcare
Software Intern

Improved performance of Centricity Universal Viewer by implementing database caching and multithreading operations. Reduced image loading time by 25% and conducted performance testing. Built proofs of concept (image fetching servlet and search engine) for product troubleshooting improvement.

May 2014 - August 2014

NSF REU at Texas Tech University
Research Intern in Computer Science

Designed an Answer Set Prolog computer program that accurately recommends treatments derived from clinical practice guidelines for various co-morbid diseases. Explored declarative programming, specifically ASP, as a tool to solve real world problems.

August 2014 - May 2016

Pediatric Cardiac Engineering Lab at Texas Children's Hospital
Research Assistant

Led a project investigating the applicability of polyurethane as part of a hybrid cardiac patch for the creation of an autologous and contractile tissue engineered device for congenital heart defects. Assessing the viability of stem cells in hybrid patch to attain a pre-vascularized patch.

SKILLS

Languages Matlab, Java, LabVIEW, HTML, CSS

Engineering Design AutoCAD

Circuitry Analog, Electronic Measurement Systems

Lab Techniques Cell Culture: Cardiomyocytes, NIH/3T3, Stem Cells. Staining: Live/Dead and Antibody Staining

LEADERSHIP

August 2014 - Present

MusicMDs
Vice President

Expanded music therapy program by partnering with Love Street Alliance, a local music therapy non-profit. Led executive board meetings and recruitment efforts. Initiated MusicMDs yearly concerts.

PROJECTS

Bioengineering Projects
Electromyograph

Designed and constructed signal processing hardware and LabVIEW program to create an EMG that can accurately detect muscle contractions and translate analog signals into relevant medical data.

Optical Immunoassay System

Engineered an electronic circuit and corresponding LabVIEW software for an optical immunoassay that can precisely and accurately test whole blood for particular analytes through the analysis of light diffraction by nanoshells.

Pulse Oximeter

Designed amplification and filtering hardware as well as LabVIEW software that performs peak detection and de-multiplexing to translate electronic information into oxygen saturation and pulse.

Computational Lung Model

Constructed an accurate MATLAB model of the lungs that can determine the gaseous compositions of total lung capacity and arterial blood. Models air mixing, humidifying, and diffusion into blood stream.

Bronchial Stent

Designed an implantable, low-maintenance and user-friendly device that utilizes resistive pressure sensors to detect for bronchial constriction. Device can provide early detection of asthma attacks.

Software Projects
GE Emerging Technologies Project

Created a web application that verifies server and website availability of websites to help employees better troubleshoot their problems.

SynerGE Innovation Challenge

Collaborated with a team to propose an artificial intelligence system that can improve customer experience to the Chief Marketing Officer of GE. Voted most innovative of the intern pitches.

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gsd

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