

YANAN QI

31 Saint Lukes Rd., Boston, MA 02134 • (857) 498-2909• yanan@bu.edu

EDUCATION

Boston University, College of Engineering, Boston, MA

May 2014

Bachelor of Science Biomedical Engineering, Minor Electrical Engineering & Business Administration, Concentration Bioinformatics

AWARDS

Nominated Student Employment of the Year, Boston University Fitness and Recreation Center, Boston, MA

2013-2014

2nd Place Winner, National Computational Modeling and Design Contest-Undergraduate Section, Beijing, China

2012

National Biomedical Engineering Honor Society (Alpha Eta Mu Beta) Member, Boston University Chapter

2011

PROJECTS

Senior Project Design: Artificial Veins or Lymphatic Vessels with Functional Valves

2013-2014

Designed and fabricated various types of hydrogel-based artificial veins with functional valves on the micrometer scale to replace damaged valves in veins and lymphangions and promote vascular stability

Microscopic Imaging Project: Targeting Drug Delivery Simulation Process With Microscopic Imaging

2013

Analyzed the use of various microscopic methods such as super-resolving, fluorescent, calcium, and TIRF microscopy to locate hydrogel particles on the nanomanufacturing platform (drug and diagnostic agent delivery vehicle), measure particle volumetric size distribution, and track particle fraction migrations and registrations

Biomedical Methodology Project: MRI, SPECT, and CT Imaging Reconstruction

2012-2013

Developed computational algorithms that modeled MRI, SPECT, and CT tomographic data and plotted reconstructed multi-dimensional images using MatLab™ and MathCad™. Theories of the algorithms were Radon & Fourier Transforms and the filtered back-projection principle

Device & Diagnostics Design: Respiratory Monitoring System

September-December 2011

Designed a microphone-based respiratory monitor to detect breathing patterns, digitized signals, programmed the Fast Fourier Transform filter to troubleshoot noises, and explored the electrical model of lung mechanics using LabView

SKILLS

Computer: C++, Java, R, SAS,Python, MatLab, MathCad, Image J, MetaMorph, LabView, AutoCad, SolidWorks MicrosoftOffice

Laboratory: Oscilloscopes, Verilog/VHDL, Agilent analyzers, spectrophotometer, microscopy (fluorescence, confocal, FRET, OCT, and TIRF), chromatography, cell culture, microfluidic chips with photolithography, gel electrophoresis, blotting, seeding and forming collagen scaffolds, genomic DNA extraction, PCR, ChIP-seq, plasmid purification, ECG, EOG, BLAST

EXPERIENCE

Research Fellow: Micro and Nano Biosystems Research Lab, Boston University, Boston, MA

2013-2014

•Evaluated the use of available 3D printable materials such as collagen hydrogels, gelatin, silica, and polydimethylsloxane (PDMS) to replicate human microvasculature with functional scaffolds and tumor inclusions

•Developed a microfluidic chip that mimicked the circulatory system, allowing measurements of electrical responses and mechanical thresholds of manufactured vascular systems

Production Assistant, Boston University Fitness and Recreation Center Dance Theatre, Boston, MA

2011-2014

•Constructed digital dimmer communication networks and maintained headset communication circuits

•Applied frequency filtrations to audio signals in the console and equalized the signal spectrum sent to the stage monitor

•Assisted in maintaining budget reports, creating production schedule for companies and crew, and training new stage crew

Research Volunteer: National Institutes of Health, Synaptic Physiology Section, Bethesda, MD

May 2013 - September 2013

•Revised the imaging acquisition system using MatLab™ and C++ to remove artifacts and distortion in images that dynamically recorded NMDA and AMPA receptor expressions in mammalian retinal ganglions, maintained retinal ganglion cell cultures, and assisted in developing the computational method that would predict receptor transformations due to stimuli

Undergraduate Research Assistant, Electronics and Circuits Lab, Boston University, Boston, MA

2010-2011

• Analyzed the effectiveness of multistage amplifier configurations including discrete differential amplifiers, Casacded Cascode configurations, direct coupled self-bias amplifiers, and phase-lock loop 4046 circuits

• Imported computational modeling data to lab instrumentation for direct visualization of signal waveforms

ADDITIONAL EXPERIENCES

Member, Global Apps Initiative Non-profit Organization, Boston, MA

2012-2014

•Assisted a small team in the design of smartphone applications to disperse and collect messages regarding the distribution of computers to underprivileged parts of the world, analyzed market research data for validation, and created financial models

Undergraduate Teaching Assistant, Electric Circuit Theory, Boston University, Boston, MA

May-August 2013

•Provided assistance to students on lab assignments and homework and also supervised exams and weekly lab sessions

Program Advisor, Teach For China, Yunnan, China

May-September 2012

• Volunteered to teach physics and chemistry for middle school students who lived in low-income rural regions

ACTIVITIES

BME Society, Technology Entrepreneurship Club, Society of Women Engineers, Boston University Volunteer Program, PatchAdams Campus Club; Boston Water Brigades; Bright and Beautiful Girl Project; Student Volunteers for Special Needs

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PROFESSIONAL REFERENCES

Dr. Jun Zhang

M.D., Ph.D., Researcher

Synaptic Physiology Section, National Institute of Neurological Disorders and Stroke (NINDS)

National Institutes of Health (NIH)

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Research Advisor

Ms. Lynda Rieman

Theatre Manager, Assistant Dance Coordinator

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Part-time Job Supervisor

Dr. Hernan J. Jara

Ph.D., Director of Research, MRI Physicist, Associate Professor of Radiology

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Instructor