

BINH NGUYEN

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Education

University of California, San Diego

B.S. Bioengineering: BioSystems, Minor: Cognitive Science

La Jolla, CA

2018

Skills

Programming: Python, Matlab, C, JavaScript, SQL, UNIX, Shell, Git, Apache Subversion, L^AT_EX
Libraries: NumPy, Matplotlib, Pandas, Scikit-learn, Jupyter, TensorFlow, Keras, Django
Systems/Hardware: LabVIEW, Simulink, Raspberry Pi, Arduino, PCB, Soldering, ECG

Experience

Acutus Medical, Inc.

Systems Engineer

Carlsbad, CA

August 2019 — Present

- Implemented pace blanking algorithm for correcting catheter positions in 3D localization engine
- Constructed and trained an RNN-LSTM model on clinical data to predict and detect disturbance
- Developed a real-time QRS detection method for optimizing virtual positional reference in software system
- Generated respiration cycle templates for categorizing different types of cardiac arrhythmia
- Coordinated with cross-functional teams to execute verification and validation testing for R&D

Clinical Science Engineer Intern

July 2018 — August 2019

- Lead development of a segmentation algorithm for dividing left atrium into 8 distinct spatial regions for use as a clinical research tool
- Created visualization of propagation of conduction velocity vectors to identify localization of arrhythmic patterns
- Analyzed ECG signal using multi-modal methods to improve signal fidelity and localization accuracy
- Automated the retrieval, parsing, and organization of data from animal studies and clinical trials

Cartilage Tissue Engineering Lab, UCSD

Undergraduate Researcher

La Jolla, CA

June 2017 — August 2017

- Validated the feasibility of automated cell counting against manual methods in human articular cartilage
- Reconstructed 3D tissue images from 2D cross-sectional images using Digital Volumetric Imaging in Matlab
- Collaborated with graduate students and lab faculty to implement 2D and 3D cell segmentation techniques involving adaptive thresholding and pixel intensities
- Presented research findings at the UCSD Summer Research Conference

Lab Assistant

August 2016 — April 2018

- Scanned, processed, and organized micro-CT images in local file system and server database
- Assisted with tissue culture generation, dissection, buffer-making, and staining for research experiments
- Checked, maintained, and serviced lab equipment to increase productivity and prevent downtime
- Wrote, conducted, and updated SOPs, ensuring up-to-date guidelines for lab-wide tasks

Coursework

Data Analysis, Machine Learning, Statistics and Probability, Data Structures, Algorithms
Numerical Analysis, Analog Design, Circuits and Systems, Signal Processing,
Bioinstrumentation, Biomedical Optics, Biomechanics, Human Physiology

Interests

Medical devices, Signal processing, HCI, Electrophysiology, Virtual reality, 3D Modeling, Music, Cooking, Fitness