Binh Nguyen

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Education

University of California, San Diego — La Jolla, CA
B.S. Bioengineering: BioSystems, Minor: Cognitive Science — 2018

Skills

Programming:	Python, MATLAB, C, JavaScript, SQL, UNIX, Shell, Git, Apache Subversion, LaTeX
Libraries:	NumPy, Matplotlib, Pandas, Scikit-learn, Jupyter, TensorFlow, Keras, Django
Systems/Hardware:	LabVIEW, Simulink, Raspberry Pi, Arduino, PCB, Soldering, Signal generators

Experience

Acutus Medical, Inc. — Carlsbad, CA
R&D Systems Engineer — August 2019 — Present

- Developed pace detection algorithm to correct auxiliary catheter positions in 3D localization engine
- Constructed and trained an RNN-LSTM model in Python to predict and detect disturbance in clinical data
- Implemented a real-time QRS detection method for optimizing impedance-based localization of catheters
- Established template-matching method to compensate for anomalous respiration cycles
- Coordinated with hardware, firmware, and software teams to execute R&D verification and validation testing

Clinical Science Engineer Intern — July 2018 — August 2019

- Developed an algorithm for segmenting left atrium into distinct spatial regions for clinical research
- Created MATLAB visualization 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 — La Jolla, CA
Undergraduate Researcher — June 2017 — August 2017

- 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
- Validated the feasibility of automated cell counting against manual methods in human articular cartilage
- Presented research findings at the UCSD Summer Research Conference to diverse audience members

Lab Assistant — August 2016 — April 2018

- Assisted with tissue culture generation, dissection, and staining for research experiments
- Scanned, processed, and organized micro-CT images in local file system and server database
- Inspected, maintained, and serviced lab equipment as required for regulatory compliance
- Conducted and revised Standard Operating Procedures for various lab 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

Neuroscience, Brain-machine interface, Human-computer interaction, Electrophysiology, Virtual/Augmented reality