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

- Built prototyping tools to integrate magnetic tracking capability for next-gen systems
- Developed MATLAB application for reading and monitoring real-time UDP data
- Constructed and trained an RNN-LSTM model in Python to detect disturbances in IQ signals
- Implemented a real-time QRS detection method to optimize impedance-based localization of catheters
- Established template-matching methodology to classify and compensate for anomalous respiration cycles
- Standardized production systems using data-driven insights and reduced number of complaint reports
- Coordinated with firmware, software, and quality teams to execute R&D verification and validation testing

Clinical Science Engineer Intern — July 2018 — August 2019

- Developed an algorithm to automatically segment heart anatomy into spatial regions for clinical research
- Created MATLAB visualization of conduction velocity vectors to identify repetitive arrhythmic patterns
- Automated the retrieval, parsing, and organization of binary data from animal studies and clinical trials
- Optimized ECG signal using multi-modal methods to improve signal-to-noise ratio

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
- Processed and analyzed micro-CT images of bovine cartilage samples

Coursework

Python for 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

Data engineering, Human-computer interaction, Electrophysiology, Virtual/Augmented reality