Binh Nguyen

binhtnguyen95@gmail.com · 209.406.6378 · linkedin.com/in/binh-t-nguyen · github.com/howyoubinh

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, LaTeX
Libraries:	NumPy, Matplotlib, Pandas, Scikit-learn, Jupyter, TensorFlow, Keras, Django
Systems/Hardware:	LabVIEW, Simulink, Raspberry Pi, Arduino, PCB, Soldering, ECG

Experience

Acutus Medical, Inc.   Carlsbad, CA
Systems Engineer 1   August 2019 — May 2020

- Built, trained, and tested an RNN-LSTM model on multiple datasets consisting of 200K+ datapoints for detecting disturbances and noise in ECG localization
- Identified key respiratory signal templates in Matlab to determine range of differences and predicting disturbance
- Developed pacing detection to blank signal and restore correct position and orientation of catheter using ultrasound signals
- Implemented a real-time QRS detection method based on Pan Tompkins algorithm with over 95% accuracy

Clinical Science Engineer Intern   July 2018 — August 2019

- Lead development of a segmentation algorithm for dividing left atrium into 8 distinct spatial regions based on user-selected vertices in Matlab for use as a clinical research tool
- Created Matlab script to visualize propagation of conduction velocity vectors and repetitive activation patterns to identify arrhythmic patterns
- Improved ECG signal approximation and catheter localization algorithm by retraining weights on significant channels using amplitude-based thresholding
- 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

- Developed an algorithm for comparing correctly-identified cells in automated program against the gold standard to validate feasibility and reduce labor-intensive tasks
- Reconstructed 3D tissue images from 2D cross-sectional images using Digital Volumetric Imaging from multi-GB struct data types in Matlab
- Collaborated with Master's and PhD students 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

Neuroscience, Medical devices, Game development, Music, Cooking, Lifting, Hiking, Meeting new people