

# BINH NGUYEN

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## Education

**University of California, San Diego**  
B.S. Bioengineering

La Jolla, CA  
- 2018

## Experience

**Acutus Medical, Inc.**  
*Clinical Science Engineer Intern*

Carlsbad, CA  
July 2018 | Present

- 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
- Build, train, and test an RNN-LSTM model on over 3 datasets consisting of 200K+ datapoints for detecting disturbances and noise in ECG localization
- Create Matlab script to visualize propagation of conduction velocity vectors and repetitive activation patterns on 3D reconstructed anatomy
- Improve ECG signal approximation and catheter localization algorithm by retraining weights on significant channels using amplitude-based thresholding
- Automate the retrieval, parsing, and organization of data from animal studies and clinical trials

## Skills

Programming: Python, Matlab, C  
Libraries: NumPy, Pandas  
Hardware: Raspberry Pi, Arduino

## Projects

**Neural Network-controlled Drone via Voice Recognition** *scikit-learn, TensorFlow* [link to project]

• Design and construct quadcopter drone from the ground-up using open-source hardware and software tools • Implement Raspberry Pi for processing audio input and computing on-board voice recognition tasks • Achieve ~90% accuracy for correct verbal phrases using k-fold cross-validation methods via scikit-learn and TensorFlow

### Arduino-powered LED Pacemaker

Design ECG circuit with variable resistors, capacitors, op-amps, and electrodes to measure voltage and detect heart beats • Program an Arduino Mega 2560 to compute heart rate and emit a different color LED based on the type of heart rhythm