Binh Nguyen

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Education

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

Professional and Research Experience

Acutus Medical, Inc. — Carlsbad, CA
Software & Systems Quality Engineer II — March 2022 — Present

- Implemented automated regression testing for WPF applications using a modified XPath language
- Improved efficiency of quality compliance for thousands of BOM items using Selenium web automation
- Drafted and executed software test cases for multiple projects and produced detailed bug reports in Jira
- Supported cross-functional teams by developing software quality test plans using Scrum methodologies

R&D Systems Engineer — August 2019 — March 2022

- Built prototyping tools to integrate 3D magnetic tracking capability for next-generation systems
- Developed MATLAB application for reading, monitoring, and displaying real-time multi-modal UDP data
- Trained LSTM models in TensorFlow to detect and predict disturbances in bioimpedance signals
- Performed root-cause analysis on electro-mechanical systems using digital signal processing techniques
- Standardized production systems using clinical site data and reduced number of complaint reports

Clinical Science Engineer Intern — July 2018 — August 2019

- Developed semi-automatic 3D heart segmentation algorithm for statistical and clinical analysis
- Created MATLAB visualization of conduction velocity vectors to identify repetitive arrhythmic patterns
- Automated the retrieval, parsing, and organization of data from animal studies and clinical trials
- Gained unique perspective on how to turn theoretical algorithms into useful clinical applications

Mathematical Neuroscience Lab, UCSD — La Jolla, CA
Senior Design Project Team Member — September 2017 — June 2018

- Worked with team members to plan, design, implement, and analyze a new class of dynamic ANNs
- Constructed DJI Flamewheel drone using DIY kit and leveraged DroneKit Python API and Raspberry Pi
- Achieved 90% accuracy in audio recognition task using k-fold cross-validation methods via TensorFlow

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
- Elucidated cell variability in superficial and deep zones and found disparities in manual cell counting
- Validated the feasibility of automated cell counting against manual methods in human articular cartilage
- Presented research findings at the 2017 UCSD Summer Research Conference to diverse audience members

Lab Assistant — August 2016 — April 2018

- Conducted tissue culture generation, dissection, staining, and imaging
- Processed and analyzed micro-CT images of bovine cartilage samples
- Followed and revised Standard Operating Procedures to ensure safety and quality standards
- Maintained lab equipment and freezers through daily and weekly inspections and measurements

Technical Skills

Programming Languages:	Python, MATLAB, C/C++, SQL, UNIX, Git, LaTeX
Software Libraries:	Scikit-learn, TensorFlow, Keras, Jupyter, Selenium
Prototyping Tools:	LabVIEW, Simulink, Raspberry Pi, Arduino, PCB, Soldering