

# Brandon Phan

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## **SUMMARY**

A dedicated and innovative biomedical engineer committed to creating progress and delivering the highest quality support and products for my teams and customers. I am a fast learner and effective collaborator with a background in engineering design, fabrication, and verification testing to bring to my next challenge!

## **SKILLS**

➤ Medical Device Design	➤ Root-Cause Analysis	➤ Design Fabrication	➤ Microsoft Office
➤ Data Visualization	➤ Technical Writing	➤ Project Management	➤ Python
➤ Verification and Validation Testing	➤ Failure Modes and Effects Analysis	➤ Patent Research and Writing	➤ Test Method Development
➤ 3D/2D CAD Software: Autodesk Fusion 360, Rhinoceros, Solidworks			

## **WORK EXPERIENCE**

### **Medical Device Test Engineer, Cook Medical**

**February 2024-Present**

Director of design verification and feasibility test studies on various Cook Medical catalog devices, including test method establishment based on technical drawings and report writing for design history file submission to global regulatory bodies

- Completed over 13 product test studies that include Instron tensile, aging, dimensional, compatibility, visual, leakage, and simulated use
- Published 30 test documents in accordance with FDA, ISO, BS EN, J ISt, and MFDS standards and performed statistical analyses powered by Minitab for variable datasets
- Improved the document control process in Agile PLM by introducing bulk change macros to daily lab operations

### **Equipment Engineer I, Illumina**

**April 2022-July 2023**

Responsible for sustaining operations of >500 pieces of equipment in Illumina's RQC labs, including performing preventative maintenance and breakdown repairs on DNA sequencers while working with vendor calibration services on precision measuring tools

- Initiated and led progress on a design improvement of a mechanical error during setup and operations on Illumina's newest sequencer through cross-team collaboration and a detailed root-cause presentation
- Drastically increased overall instrument uptime for sustaining QC and new product testing by mastering technical schematics and functional knowledge to deftly identify root causes of sequencer breakdowns
- Ensured security and software system compatibility of a sequencer fleet by leading and executing the fleet upgrade project in collaboration with Illumina's System Integration team, Validation team, and scientists

### **Motion Analyst Assistant, UVa Motion Analysis and Motor Performance Lab**

**August 2021-December 2021**

Assist in establishment of miniaturized motion track assembly for testing kinematics and gait of mice with and without volumetric muscle loss

- Designed a prototype bespoke motion probe wand to calibrate motion capture cameras in multiple planes for the analysis of mice gait in a miniature force plate track with CAD software
- Assisted in system integration of the prototype motion probe wand in VICON software while observing the gait study setup and runs

### **Footwear Production and 3D Printer Design Intern, Oesh Shoes**

**May 2021-August 2021**

3D print, assemble, and deliver all sandal footbeds and straps while aiding coworkers in shooting promotional media

- Improved efficiency and longevity of a customized 3D printer fleet by re-soldering and sheathing electrical wires for cable management and printer head range of motion, while replacing the material feeding auger

## **EDUCATION**

### **UNIVERSITY OF VIRGINIA**

Master of Engineering (M.E.) Biomedical Engineering

**December 2021**

Bachelor of Science (B.S.) Biomedical Engineering

**May 2020**

Projects: Please see project portfolio @ <https://phanbme.wixsite.com/home>

- Master Project: Creation of head-frame adaptor prototype for use with varying head shapes during gamma knife radiosurgery yielding a complete design history file modeled for FDA submission
- Capstone: Creation of customized 3D printed shoe cushion for plantar fasciitis treatment