Chandler W. Woo

626-848-6226 | chandler.w.woo@gmail.com | www.chandlerwoo.com

SUMMARY OF QUALIFICATIONS

- Desire to seek hands-on application of skill sets, guided by a strong attention to detail and a willingness for new challenges
- Quick ability to adapt in professional and social exchanges with a passion to learn as demonstrated by participation in conferences
- Skilled using MATLAB for mathematical and statistical analysis, Microsoft Excel, FEBio, HTML5 and JavaScript

BIOMEDICAL ENGINEERING EDUCATION

RICE UNIVERSITY — HOUSTON, TX
Masters of Bioengineering, Global Medical Innovation (GMI) Tract — **Expected May 2018**
- Engaged in 2-month Costa Rica immersion trip to conduct needs finding and to learn medical device innovation process, including a six-week internship with Boston Scientific at their Heredia site

UNIVERSITY OF ROCHESTER — ROCHESTER, NY
Bachelor of Science in Biomedical Engineering, Concentration in Biomechanics — **May 2017**
Current GPA: 3.55/4.0
- Executive Board Member; Upperclassmen Hall Council, Sigma Chi Fraternity, Newman Catholic Community
- Member of Solar Splash, Engineers without Borders, Biomedical Engineering Society, Ultimate Frisbee Club Team
- Teaching Assistant: Introduction to Biomedical Engineering; Human Anatomy; Signals, Systems, and Imaging
- Awards: Eagle Scout, Dean's Scholarship Recipient, Dean's List, Graduated with High Distinction

SELECTED BIOMEDICAL ENGINEERING COURSES AND PROJECTS

Senior Design; Biomedical Instrumentation and Design; Viscoelasticity; Quantitative Physiology; Fluid Mechanics; Biomaterials; Thermodynamics; Biomedical Computation & Statistics; Signals, Systems, and Imaging; MATLAB; Biosolid Mechanics; Mammalian Physiology; Biosystems & Circuits; Solid Mechanics; Human Anatomy; Biomechanics

- **Senior Capstone Project:** Developed an improved veterinary endoscopic retrieval device that implements novel technologies to improve foreign body retrieval while reducing cost for the veterinarian. Designed prototypes for DFMA in SolidWorks and developed business plan for competition.
  * 1st Place: Mark Ain Business Model Competition, 2nd Place: Charles and Janet Forbes Entrepreneurial Competition
- **Biomedical Computation Final Project:** Analyzed confocal microscopic images to quantify depth dependent properties of cartilage under sinusoidal shear. Generated MATLAB code to extract and track the position of photobleached lines under shear and used statistical analysis to confirm significance. Assembled and presented results and discussion in the form of a journal article.
- **Biosystems & Circuits Final Project:** Designed an artificial touch sensor, suitable for a Raptor 3-D printed hand, to sense pressure at the "fingertip" and deliver a signal to the hand. Analyzed circuit design using OrCAD to calculate appropriate frequency response for a Pacinian Corpuscle; crafted final design onto a circuit board using general design considerations.
- **MATLAB Final Project:** Directed a 3-person team to design a hearing test for young children in MATLAB. Identified considerations for project such as maintaining the child's interest with a reward system as well as determining the subject's average threshold through both 2-down-1-up and reversal algorithms.

BIOMEDICAL AND MECHANICAL ENGINEERING EXPERIENCE

BUCKLEY LAB at DEPARTMENT OF BIOMEDICAL ENGINEERING, UNIVERSITY OF ROCHESTER — ROCHESTER, NY
Undergraduate Research Assistant — **September 2015 – Present**
- Utilize confocal microscopy to analyze force distributions of murine femoral condyles under mechanical loading.
- Develop MATLAB code to directly measure cartilage strain under different loading conditions and use inverse finite element analysis to obtain material properties and boundary conditions of murine cartilage.
- SB3C Conference, Presentation Attendee, Summer 2016 - "A Quasi-Static Method to Quantify Murine Mechanical Properties"
- BMES Conference, Poster Presenter, Fall 2016 - "Effects of Mechanical Preconditioning on Material Properties of Murine Cartilage"

IDEALAB — PASADENA, CA
Summer Engineering Intern — **Summer 2011, 2012, 2014, 2015**
- Operated machine shop tools and SolidWorks to devise novel product prototypes.
- Self-directed projects include, but not limited to, optimizing angles of 100 mirror array to centralize light on single point for solar tower design consideration; designing heat retentive system for effective water desalination.
- Researched efficiency of solar desalination comparatively to reverse osmosis desalination and conducted test experiments under a given budget.

CRANE LAB at UNIVERSITY OF ROCHESTER MEDICAL CENTER — ROCHESTER, NY
Undergraduate Research Assistant — **September 2014 – May 2015**
- Directed evening human trial sessions for data to better understand human motion perception and spatial orientation.
- Managed personal MATLAB projects to update the aesthetic and functional display while running tests.