Camille Elise Johnson

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Education

Georgia Institute of Technology, Atlanta, GA

Master of Science in Mechanical Engineering | August 2018

Bachelor of Science in Biomedical Engineering with Minor in German Language, *summa cum laude* | May 2015

Skills

Python (NumPy, SciPy, Matplotlib, pandas), MATLAB, SQL, R, SolidWorks, ANSYS Fluent, ANSYS Mechanical, Microsoft Office

Experience

Product Designer — Self-employed | Tucker, GA

January 2020 - Present

- Defining product specifications based on user input and research and development of design concepts
- Creating SolidWorks models of design iterations

Mechanical Design Engineer — Emelody Worldwide, Inc | Atlanta, GA

May 2019 – July 2019

- Providing designs and schematics for new and existing product development
- Developing CAD data and electrical components for demonstrator prototypes and full-scale production designs

Graduate Research Assistant — Georgia Institute of Technology | Atlanta, GA

September 2015 – December 2017

- **Cardiovascular Fluid Mechanics Lab** (Wallace H. Coulter Department of Biomedical Engineering)
  - Responsible for the creation of 3D computer models of pediatric cardiovascular anatomy, running computational fluid dynamics (CFD) simulations of blood flow through vasculature, and providing data and models to cross-functional team of engineers and clinicians to decide optimal surgical options
  - Mentor to one Undergraduate Research Assistant

Undergraduate Research Assistant — Georgia Institute of Technology | Atlanta, GA

May 2013 – May 2015

- **Tissue Mechanics Lab** (Wallace H. Coulter Department of Biomedical Engineering)
  - Responsible for data acquisition and data processing to characterize mechanical properties of heart valve leaflets
- **Biomechanics and Motor Control Lab** (School of Applied Physiology)
  - Responsible for database construction and organization to investigate the effect of electrical stimulation on re-innervation of feline hind-leg muscle following peripheral nerve injury

Projects

- **Publication:** Wei, Z.A., **Johnson, C.**, Trusty, P. *et al.* Comparison of Fontan Surgical Options for Patients with Apicocaval Juxtaposition. *Pediatr Cardiol* (2020).
- ME 6104: Computer Aided Design – Final Project – "Homegrown CAD environment"
  - Developed an interactive Python GUI to mimic basic functionalities of commercially available CAD software
- ME 6622: Experimental Methods – Final Project
  - Developed a MATLAB function to create global and piece-wise polynomial fits of a composite AM/FM waveform of a "ping disturbance," as well as a quantification of error of fit
- ME 6720: Biotransport – Final Project – "Comparison of Poiseuille and Womersley Solutions to Blood Flow in Arteries"
  - Developed a MATLAB function to approximate volumetric flow rate functions from discrete waveforms of aortic and coronary artery blood flows
  - Derived pressure gradient, velocity, and shear wall stress profiles using Poiseuille and Womersley principles and equations