

# Rithika Adavikolanu : Biomedical Engineer

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email: [rithika@tamu.edu](mailto:rithika@tamu.edu) || Bay Area, CA

## Relevant Experience

### Texas A&M Biofabrication Research Lab

Fall 2018 - Current // College Station, TX

- Principal Investigator: Roland Kaunas
- Engineer micro-tissues containing mesenchymal stem cells as a means for regenerating musculoskeletal tissues
- Investigating novel methods for cultivating osteogenic tissue by harvesting and tethering extracellular bone matrix to hydrogel scaffolds via click-chemistry
- Utilize Weka machine learning to analyze and quantify datasets of interest

### University of Miami Neural Cognition Research Lab

Summer 2017 // Miami, FL

- Principal Investigator: Lucina Uddin
- Wrote MATLAB code to preprocess raw MRI data to create artifact-free, brain scan datasets
- Code was used to contrast the resting-state functional analyses of MRI imaging data of children with autism against those of other developing children

### Genentech Internship

Summer 2016 // San Francisco, CA

- Learned CAD software to develop 3D printing biotechnology based models of cardiovascular tumor biology
- Worked on fabricating 3D printed scaffolds for use in heart valves to later be implanted into patients with the intent of building muscle tissue and repairing nerves

## Projects

### Visible Light CT Scanner

- Designed and built a visible light CT scanner prototype using a stepper motor and android phone integrated with an Arduino
- Wrote a Python code suite to process images taken from a the android camera in order to create filtered back projections
- Used back projections to reconstruct horizontal cross sections and a 3D visualization of the original object, fully displayed in a GUI

### Fitbit App Development (In Progress)

- Utilized FitBit SDK to develop a FitBit app that captures data using accelerometer, gyroscope, and heart rate sensors and stores it in a server
- App creates datasets of physical parameters before and during recurring medical episodes in hopes of analyzing concrete data to compare the effectiveness of therapy techniques

## Skills

**Lab Skills:** Western Blot, Gel Electrophoresis, BCA Assay, Biosafety Cabinet Environment, Cell Plate Imaging, ELISA, Fluorescence Microscopy

**Languages:** Python, MATLAB, Java, Arduino, HTML, CSS, JavaScript

**Libraries/Applications:** Weka Machine Learning, Python Flask, PyQt5, OpenCV, NumPy, Solidworks, socket.io, jQuery

## Education

### Texas A&M University

B.S. Biomedical Engineering  
May 2022

## Completed Coursework

### University

- Computing for Biomedical Engineering
- Physiology for Bioengineers I
- Physiology for Bioengineers II
- Introduction to Biomaterials
- Signals and Systems
- Bioelectronics with Circuits
- Medical Device Design

### eDX Courses

- Introduction to Biomedical Engineering (IEEE)
- Fundamentals of Biomedical Imaging: MRI (EPFL)
- Medicine in the Digital Age (Rice)

## Find Me Online

**Website:** <https://rithika.io/>  
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