

# Sejal Dua

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## Education

### Tufts University

*Bachelor of Science in Data Science & Biomedical Engineering*  
GPA: 3.75 (Dean's List)

**Medford, MA**

Sep 2017 – May 2021

## Work Experience

### LEGO Industry Partner: Tufts CEEO

*Software Development Intern*

**Medford, MA**

Jun 2019 – Aug 2019

- Developed software which enables bidirectional communication between a LEGO SPIKE Prime hub and various microprocessors.
- Utilized image processing to implement a smile detection neural network demonstration for LEGO HQ creative executives.
- Created an Augmented Reality (AR) environment for displaying and updating sensor values using Vuforia and Thingworx.

### Oregon Center for Aging and Technology (ORCATECH)

*Computer Science Summer Research Assistant*

**Portland, OR**

May 2018 – Aug 2018

- Facilitated and executed a research validation experiment designed to obtain gait speed data from an elderly cohort of participants with cognitive impairment, often in the form of Alzheimer's or dementia.
- Analyzed 20 years of passive infrared sensing data, investigating the gradual degradation of the circadian rhythm as a result of aging.

### Tufts Silklab // Professor Fiorenzo Omenetto

*Lab Researcher*

**Medford, MA**

Sep 2018 – Present

- Scaffolded the functionality for a smartphone app that can scan an array of microfluidic sensors on a T-shirt and perform a colorimetric analysis of sweat.

## Clubs and Co-curriculars

### Tufts Brain Computer Interface (BCI) Team

- Employing fabrication techniques and programming skills to build an EEG headset which will enable intriguing psychology and cognitive brain science studies proposed by students.

### Design Engineering for Social Good

- Executing a semester long human-centered design project from conception to product, harnessing critical aspects of design thinking such as iteration and prototyping.

## Coursework and Skills

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|--|--------------------------------------|
| ○ Data Structures and Algorithms               | ○ Linear Algebra                     |
| ○ Artificial Intelligence                      | ○ Human Computer Interaction         |
| ○ Machine Structure and Assembly Language      | ○ Computational Analysis of Big Data |
| ○ Artificial Neural Networks and Deep Learning | ○ Nanobiotechnology                  |
| ○ Multivariable Calculus                       | ○ Biomechatronics                    |

**Languages:** Python, C, C++, Java, MATLAB, R, SQL, HTML, CSS, JavaScript, LaTeX

**Tools:** Git, Linux, Pandas, Matplotlib, TensorFlow, Keras, Tableau, Bokeh, Scikit-learn, LabVIEW, Thingworx, Vuforia

**Passions:** Ultimate Frisbee, Lacrosse, Mandarin Chinese (near-proficient), Traveling, Wearable Technology