

## CONTACT



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sejaldua



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## EDUCATION

### Tufts University (Medford, MA)

GPA: 3.75 Dean's List

Graduation Date: May 2021

### Jesuit High School (Portland, OR)

GPA: 4.26 weighted, 3.96 unweighted

Graduation Date: June 2017

## RELEVANT COURSES

- Data Structures
- Machine Struct. & Assembly Lang.
- Algorithms
- Neural Networks and Deep Learning
- Big Data
- Artificial Intelligence
- Machine Learning
- Data Visualization

## TECHNICAL SKILLS

### Coding Languages

Python	R
C++	SQL
C	HTML
MATLAB	CSS
Java	Javascript

### Packages & Libraries:

matplotlib, numpy, scipy, pandas,  
keras, tensorflow, pytorch, sklearn

### Operating Systems:

Linux, UNIX, Windows

### Software Development Tools:

VSCode, Github, Sublime Text, Jupyter  
Notebooks, Xcode, LaTeX, Tableau

### Technologies & Microprocessors:

Raspberry Pi, Arduino, micro:bit,  
OpenMV Camera, PyBoard

### IoT Platforms:

Thingworx, Vuforia

# SEJAL DUA

Tufts University Class of 2021

Data Science & Biomedical Engineering

## EXPERIENCE

### LEGO Industry Partner

#### Software Development Intern • Jun 2019 – Aug 2019

- ❖ Developed software which enables bidirectional communication between a LEGO SPIKE Prime hub and various microprocessors.
- ❖ Improved LEGO image recognition functionality by implementing a smile detection neural network demonstration using the sklearn package.
- ❖ Created an Augmented Reality (AR) environment for displaying and updating sensor values using Vuforia and Thingworx.

### Oregon Center for Aging & Technology

#### Computer Science Summer Research Assistant • May 2018 – Aug 2018

- ❖ Facilitated and executed a research validation experiment designed to obtain gait speed data from an elderly cohort of participants with mild cognitive impairment, often in the form of Alzheimer's or dementia.
- ❖ Sifted through 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 • 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.

### Tufts University Computer Science Department

#### Teaching Assistant • Jan 2019 – Present

- ❖ Contributed up to 10 hours a week helping students with coursework in Machine Struct. and Assembly Lang., Computing in Engineering, and Engineering Design Lab

## PROJECTS

### Beyond the lyrics: the intersection of music and data visualization

#### Towards Data Science Article • Nov 2019

Performed sentiment analysis on song lyrics using the Spotify API, Python, and Tableau; wrote a Medium article using data to show how artists evolve and how genres differ.

### Glioma detection from MRI scans

#### GitHub Repository • May 2018

Automated brain tumor detection using MATLAB image processing techniques such as threshold density image segmentation with logistic regression and ROC error analysis.

## CLUBS AND CO-CURRICULARS

### Tufts Brain Computer Interface (BCI) Team

#### Member • Sep 2018 – Present

Employed fabrication techniques and programming skills to build an EEG headset which enables intriguing psychology and cognitive brain science studies proposed by students.

### Design Engineering for Social Good

#### Member • Sep 2017 – Present

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