

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 – Jan 2020

- ❖ 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.

Textbook Exchange Network

Data Science Team Lead • Jan 2020 – Present

Overseeing a data analytics team working to gain insights from 4000+ API exchanges representing textbook transactions that have saved students \$300,000 compared to prices found at the campus bookstore.