

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

Perform sentiment analysis on song lyrics using the Spotify API, Python, and Tableau; wrote a Medium article to tell a story about how artists evolve musically 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.