CONTACT

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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, d3, keras, tensorflow, pytorch, sklearn

Operating Systems:
Linux, UNIX, Windows

Software Development Tools:
Github, VSCode, 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

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.

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.