Sejal Dua

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Education

Tufts University **Medford, MA**
Bachelor of Science in Data Science & Biomedical Engineering *Sep 2017 – May 2021*
GPA: 3.75 (Dean's List)

Work Experience

LEGO Industry Partner: Tufts CEEO **Medford, MA**
Software Development Intern *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) **Portland, OR**
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 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 **Medford, MA**
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.

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

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

Languages: Python, C, C++, Java, MATLAB, R, SQL, HTML, CSS, JavaScript, LaTeX
Tools: Git, Linux, Pandas, Matplotlib, TensorFlow, Keras, Bokeh, Scikit-learn, LabVIEW, Thingworx, Vuforia
Passions: Ultimate Frisbee, Lacrosse, Mandarin Chinese (near-proficient), Traveling, Wearable Technology