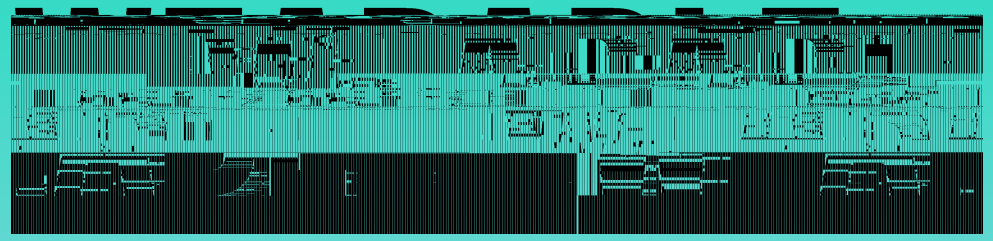


11AM-

CONFERENCE 2022

#BWIE22

CONFERENCE 2022

COMPUTING

Speakers

SUSAN HAYES

Electrical Engineer
Applied Medical

SAEIDEH MOGHAREHABED

Algorithm Engineer
Masimo

Susan Haynes

Manager of Technology & Development Electrical Systems

APPLIED MEDICAL

Confidential Information.
Not To Be Disseminated By Any Recipient.

Confidential Information. Not to Be Disseminated by Any Recipient.

Build Your TRIBE

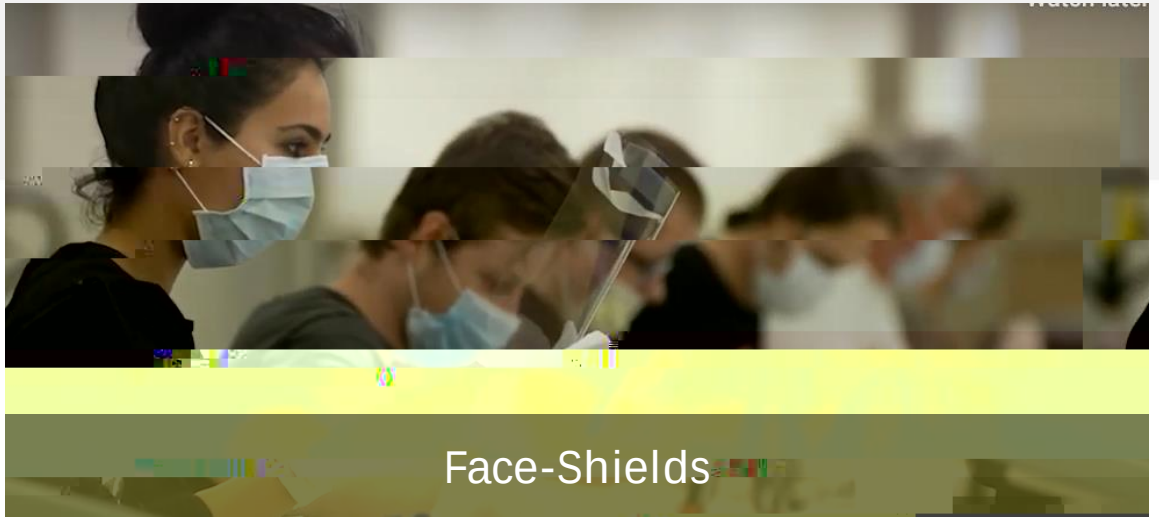
Inspire Others

Balance

Be Authentic

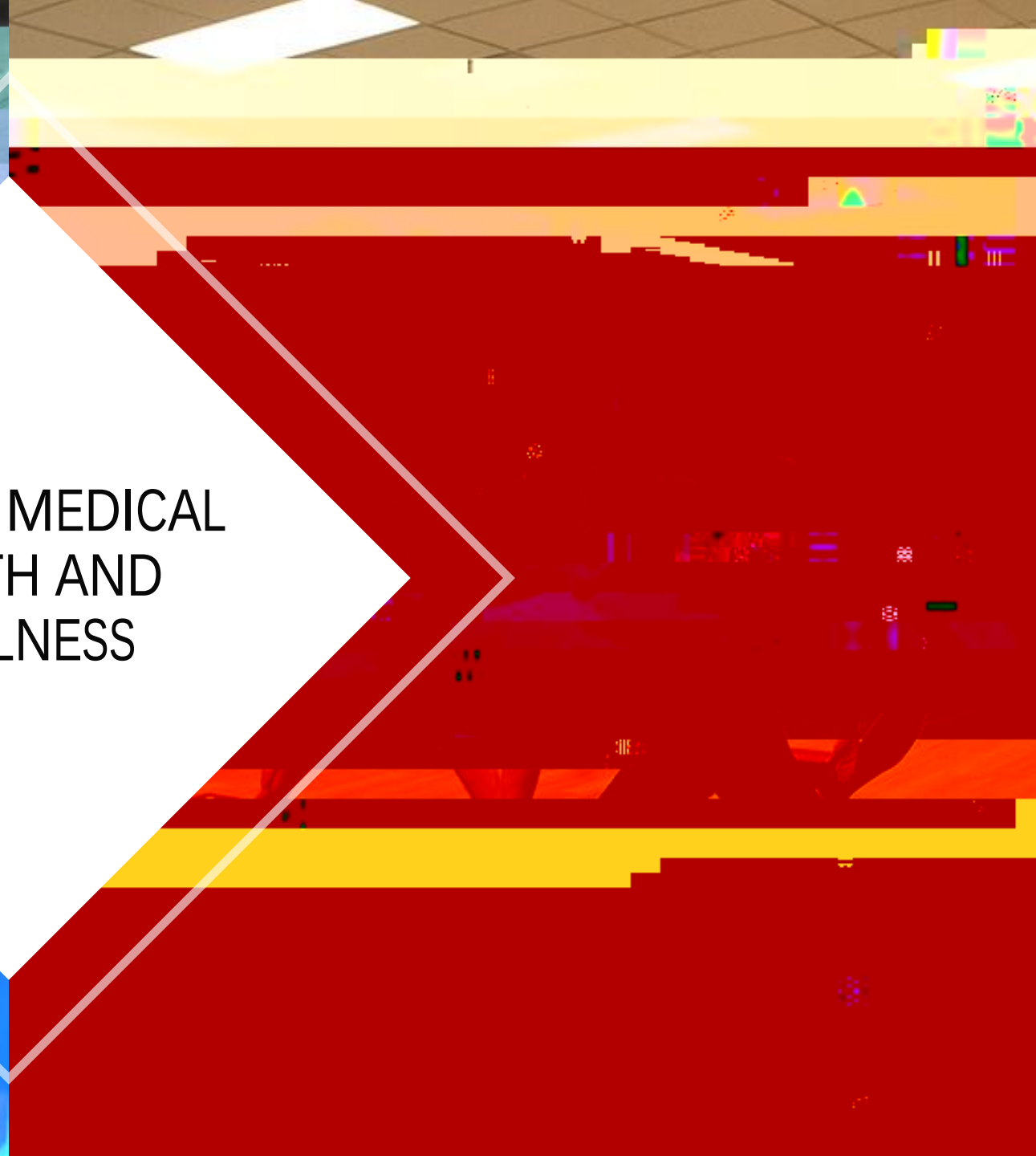
- Established in 1987
- Approximately 4,000 Team Members
- Over 700 products available in more than 80 countries worldwide
- A New Generation Medical Device Company
- 20 Buildings in SoCal

COVID-19 RAPID RESPONSE



Applied Medical

APPLIED MEDICAL HEALTH AND WELLNESS



RESEARCH BACKGROUND AND MOTIVATIONS

Saeideh Mogharehabed

Algorithm Engineer, Masimo

April 9, 2022

Outline

Education

Why I became an engineer?

Why biomedical engineering?

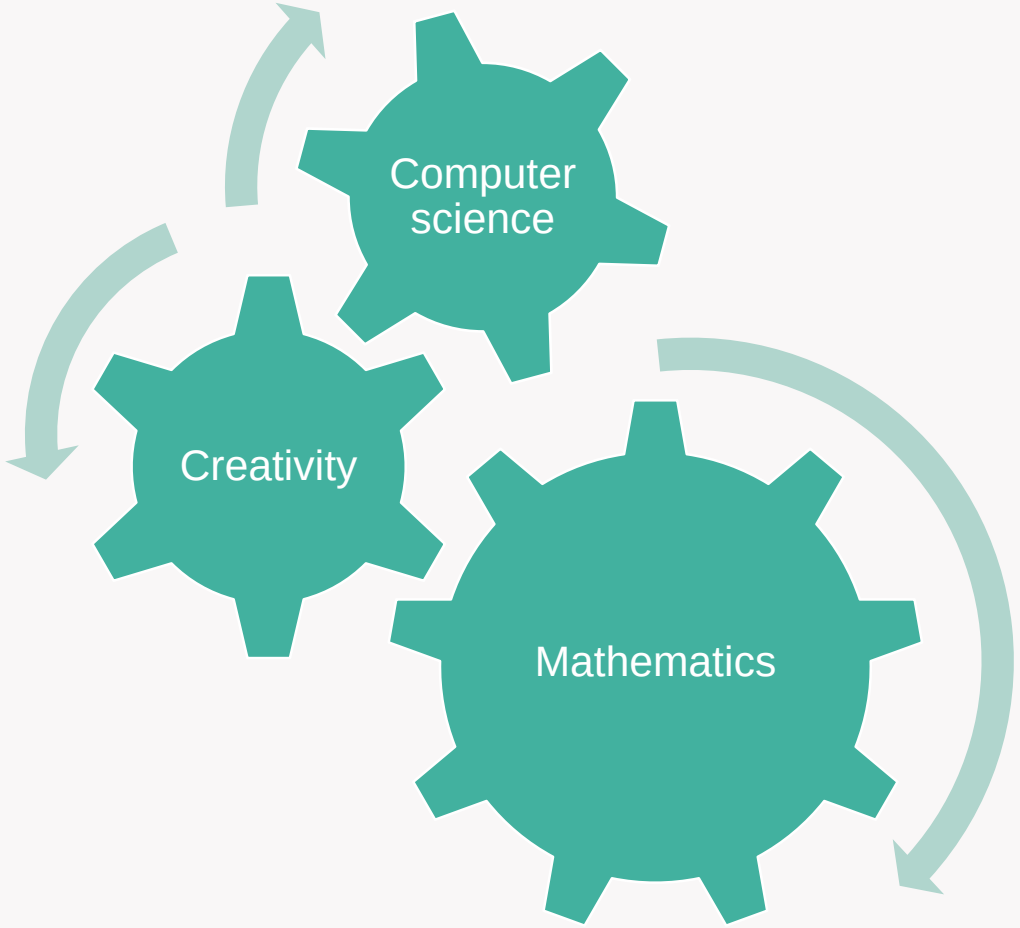
Research Projects:

1. Classification of Lung Tissue in HRCT Images of Cystic Fibrosis Patients
2. Seizure Detection and Emotion Detection Systems Using Physiological Signals
3. Detection and Prediction of Delirium

Education

- BSC in Electrical Engineering
- MSC in Biomedical Engineering
- MSC in Electrical and Computer Engineering

Why I became an engineer?



Why biomedical engineering?

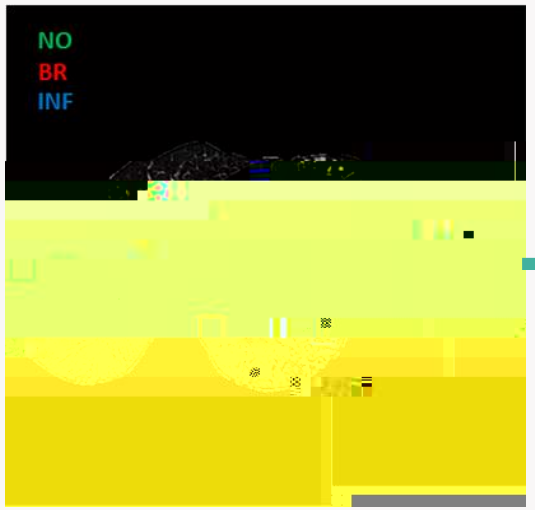
- Save lives

RESEARCH PROJECTS

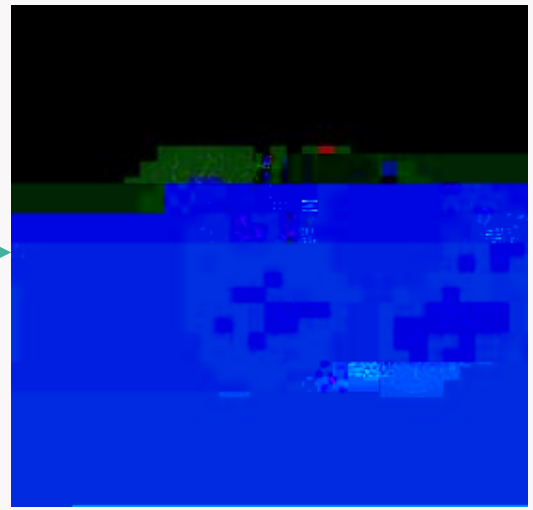
Classification of Lung Tissue in HRCT Images of Cystic Fibrosis Patients

Data Analysis

Image Processing



CAD System



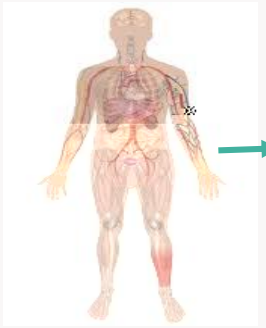
Seizure Detection and Emotion Detection Systems Using Physiological Signals

Emotion/Seizure Detection:

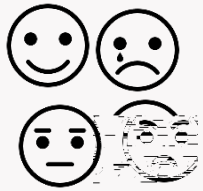
Intuition: Biosignals can be used to understand the underlying physiological mechanisms of a specific biological event

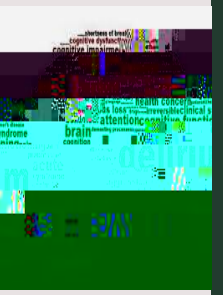
Emotional states: happiness, sadness, fear, disgust, surprise, neutral

Seizure states: Normal EEG and abnormal EEG



Data Collection → Signal Preprocessing → Feature Extraction → Feature Selection → Machine Learning





Delirium Prediction Using Clinical Data

Data

Outlier removal

Interpolation

Delirium

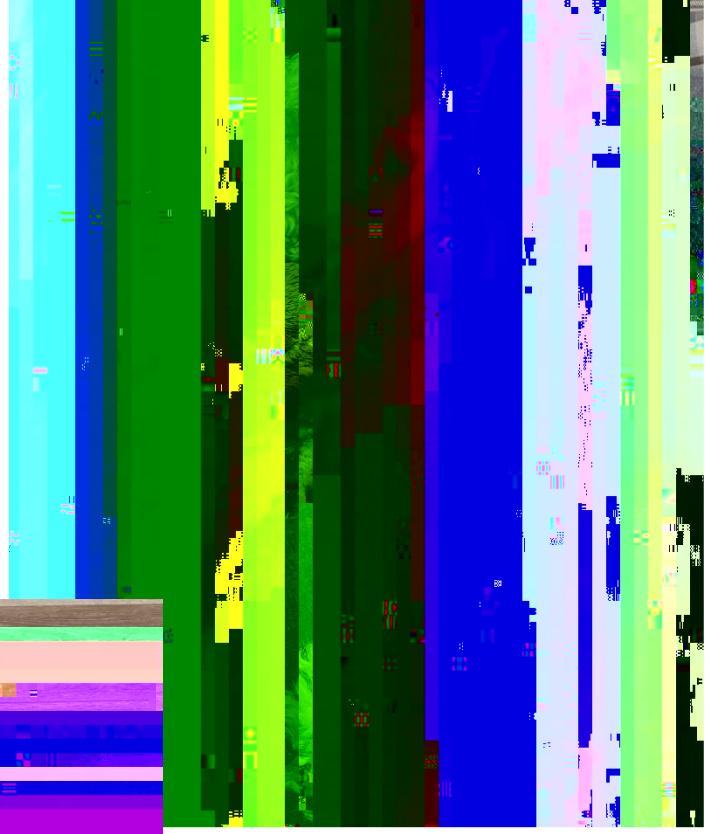
Not-Delirium

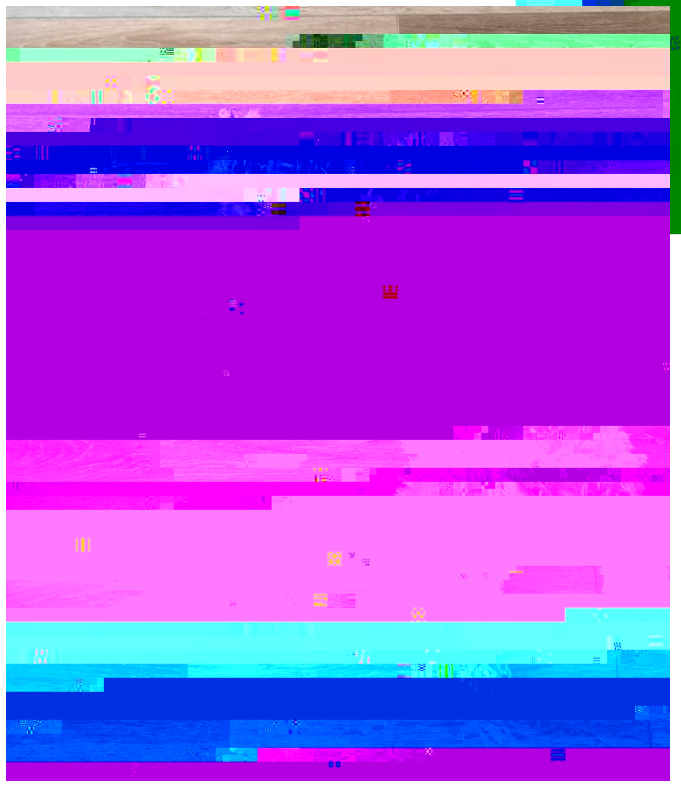
Delirium

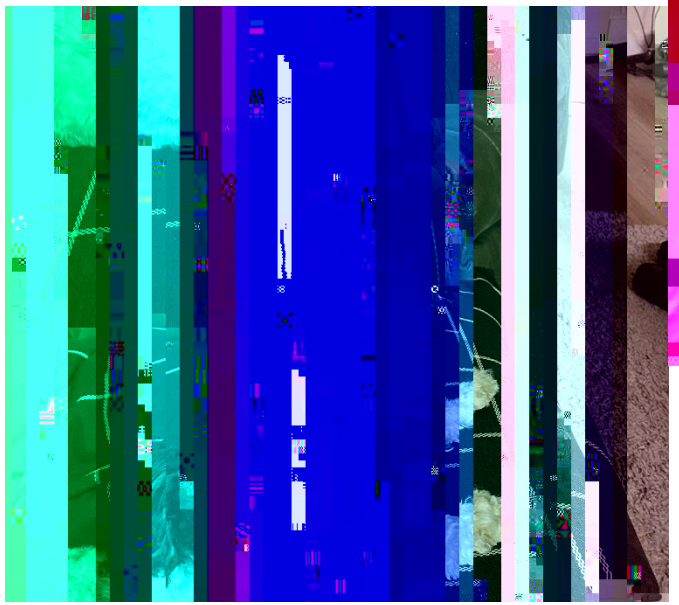
Not-Delirium

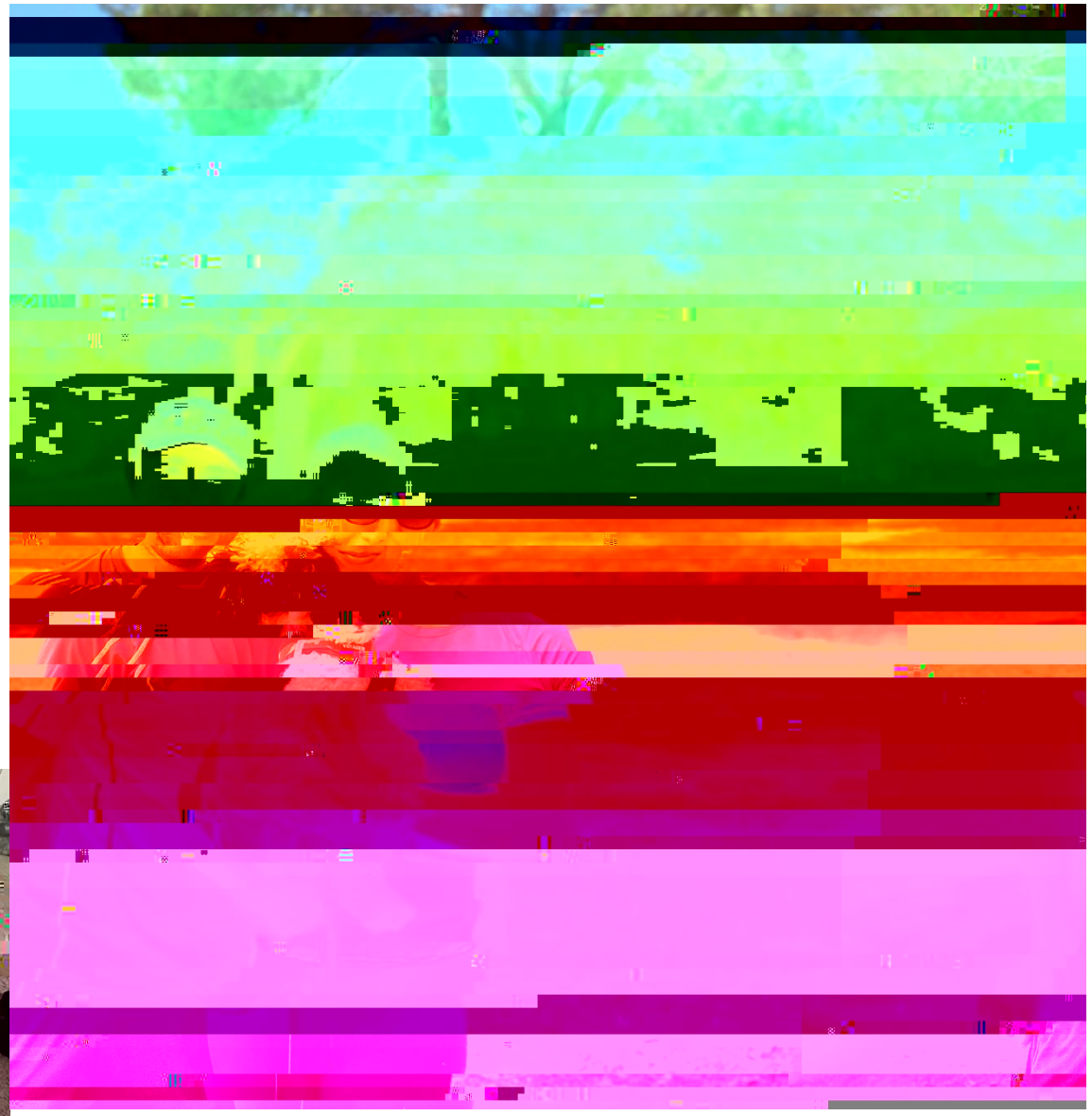
THANK YOU

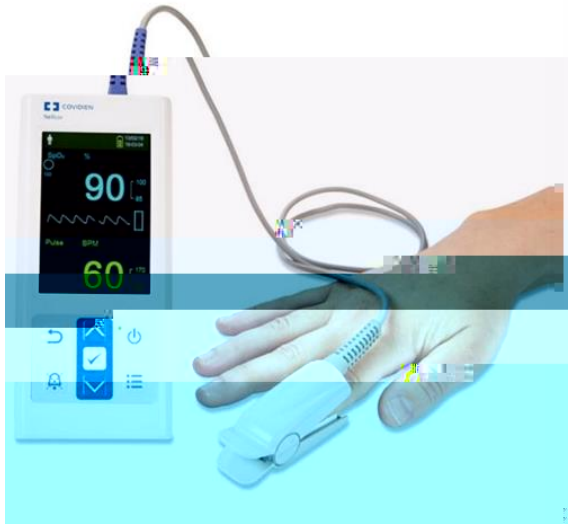
BEACH WOMEN







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120
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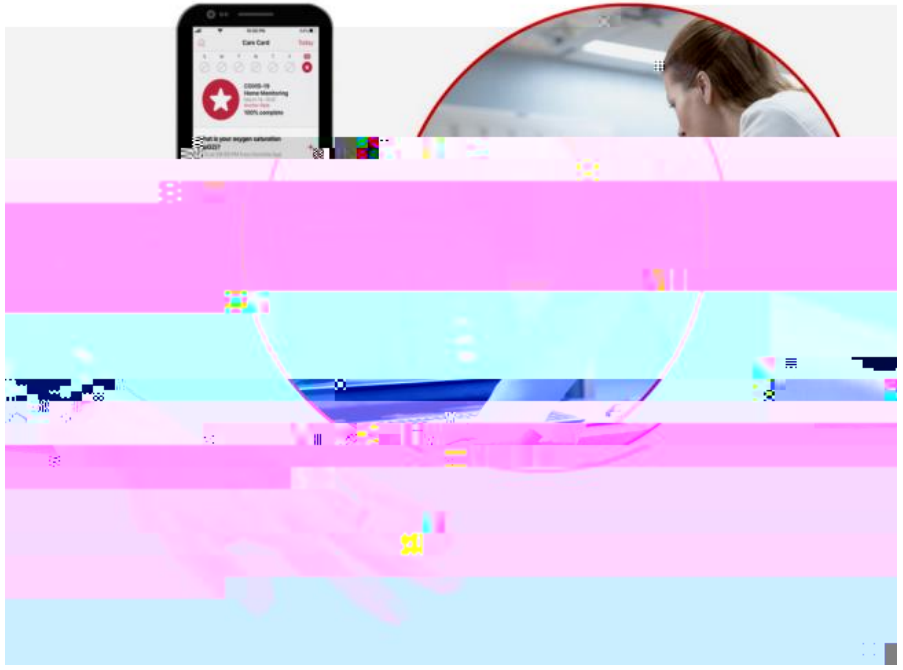
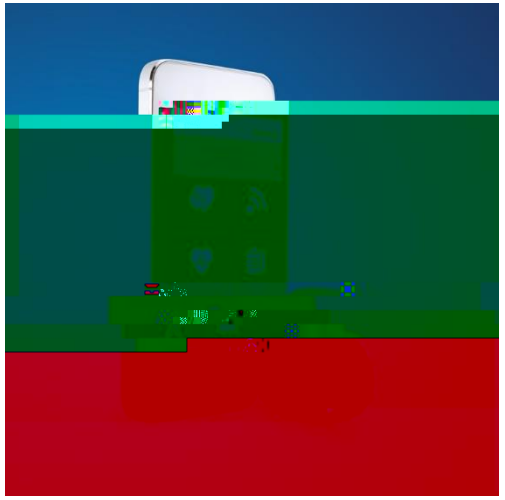
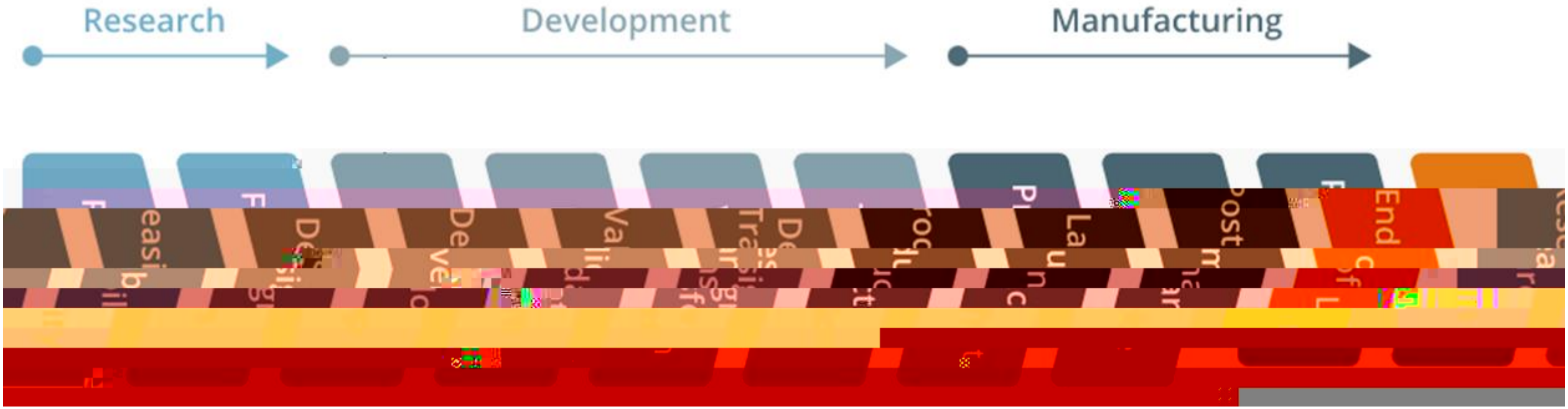




Life-cycle of Medical Device & QE Roles



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