

# CNS-1652538: CPS:CAREER: Internet of Wearable E-Textiles for Telemedicine



Project Name: “Kaya”



**Wearable  
Biosensing  
Lab**

THE  
UNIVERSITY  
OF RHODE ISLAND

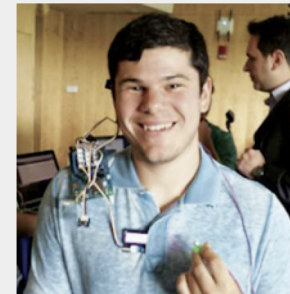
## Project Leads



**Kunal Mankodiya**  
Principal  
Investigator  
Wearable IoT



**Umer Akbar, MD**  
Neurologist  
Clinical Expert  
Parkinson's & DBS



**Nick Constant**  
PhD Researcher  
Research Lead  
Internet of Things

## Project Team



**Nathan Ankomah-Mensah**  
Former Undergrad  
Intern  
Fog Computing



**Andrew Peltier**  
Undergrad Intern  
Software & App



**Matt Constant**  
Former Undergrad  
Intern  
Embedded Systems



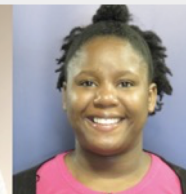
**Shimra Jaime Fine**  
Grad Researcher  
Textile Science



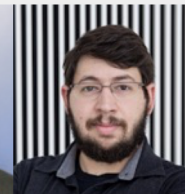
**Brandon Paesang**  
Former Undergrad  
Intern  
Textile Design



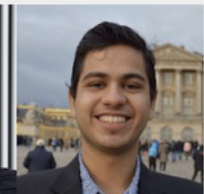
**Vanessa Kamara**  
Undergrad Intern  
Wearable Sensors



**Renee Gordon**  
Former Undergrad  
Intern  
Wearable Sensors



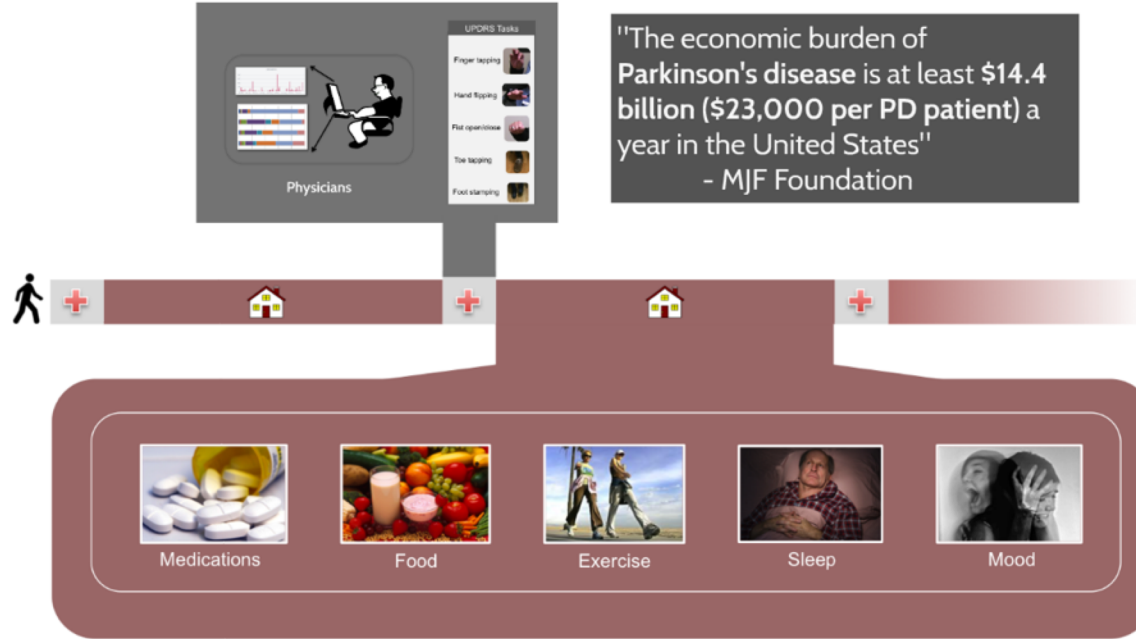
**Josh Gyllinsky**  
PhD Researcher  
Computer  
Engineering



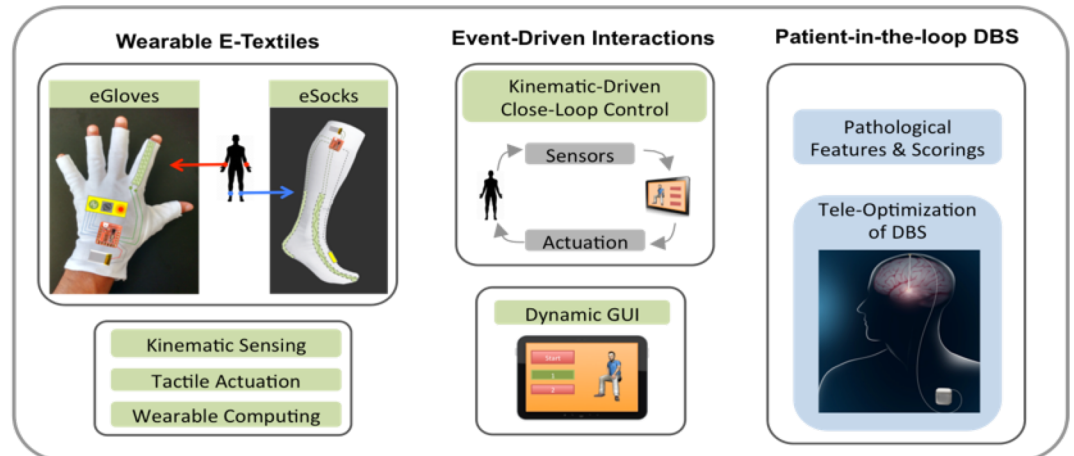
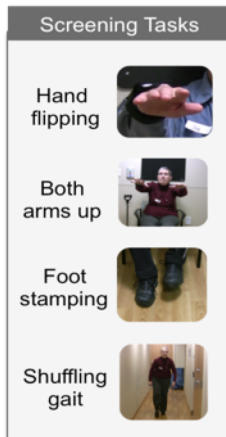
**Sahil Kargwal**  
Former Undergrad  
Intern  
Textile Engineering

# Project Description

Current Environment



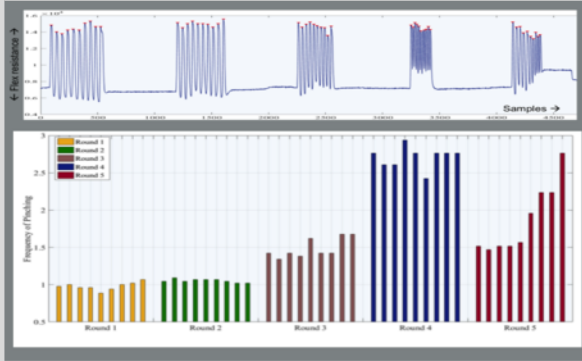
Goal : Kaya



# Project Description

## Data-Assisted Decision Support

Fog-to-cloud



- long-term practice history, therapy analytics, medical profile
- context on practice history, conditioning, real-time analysis, and store relevant exercises
- bridging protocols and provide user interface
- streaming glove data, minimal processing

Decision Support



## Personalized Patient Interactions

Edge

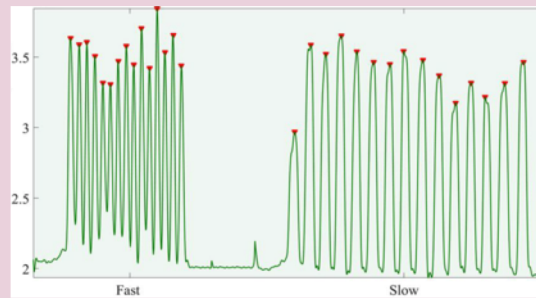


Patients



## E-Textile Wearable Data Collection

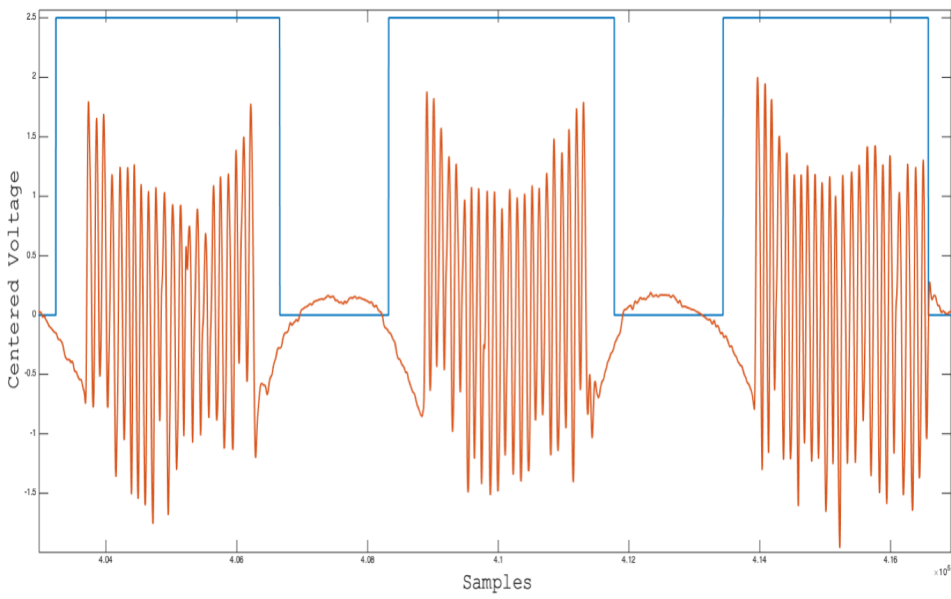
Things



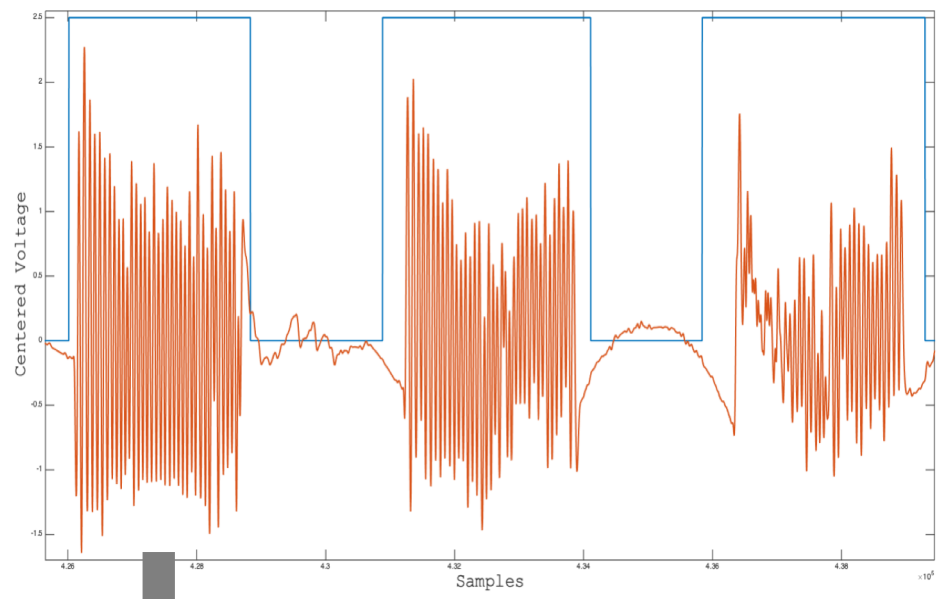
Wearables



# Project Findings

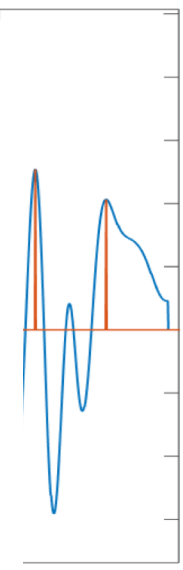
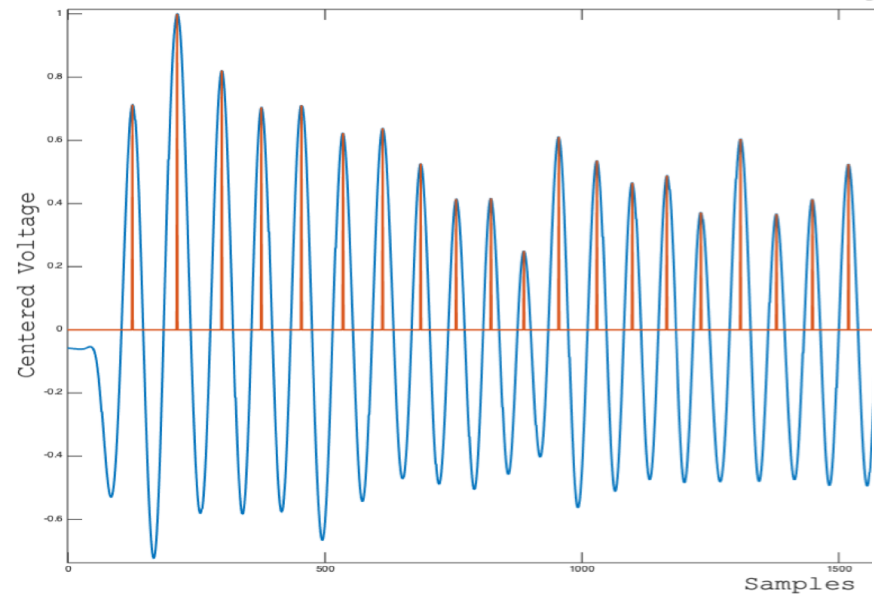


**HEALTHY**



**Parkinson's Disease Patient**

**EDGE**



**Demo at Booth 5**

