CruX Team 2 - RC Car

Alisha Ly, Anish Thalamati, Audrey Ngai, Avantika Aggarwal, Hanna Boughanem, Mateo Umaguing, Paige Lee, Sree Nagaraj, Srivarsha Rayasam

Narrative

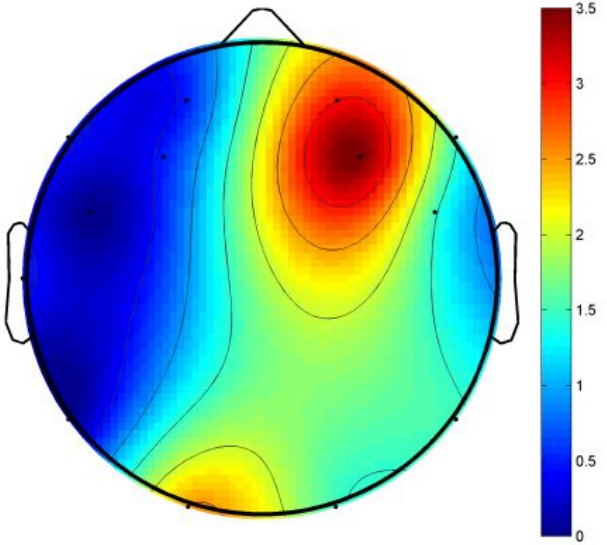
Model car ~ wheelchair

Steady State Visual Evoked Potential (SSVEP)

SSVEP classification -> model car control

Significance

Paraplegic Application



SSVEP Research

Overall Aim

Develop a brain-computer interface (BCI) that can control the movement of a model car.

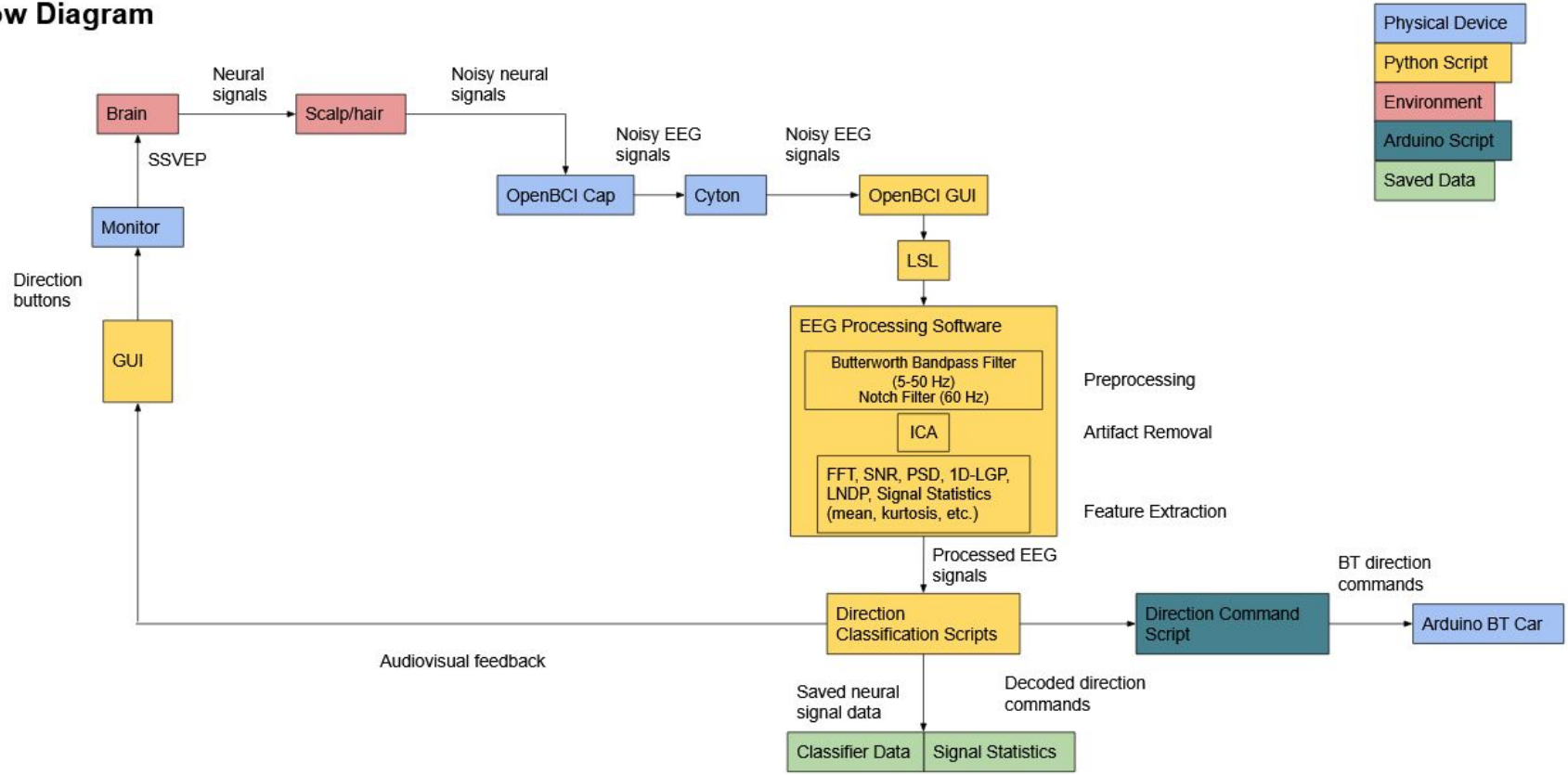
Specific Aims

Successfully collect EEG signals via OpenBCI headsets.

Create a brain-computer interface to classify SSVEP signals using analytical or ML methods.

Navigate a model car through a maze via a brain-computer interface.

Data Flow Diagram



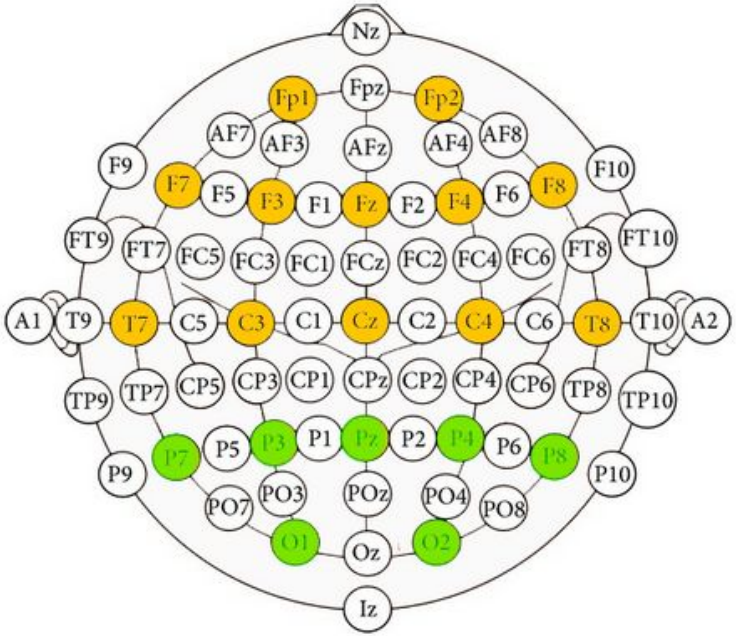


Fig. 2 - Electrode Channels of Interest

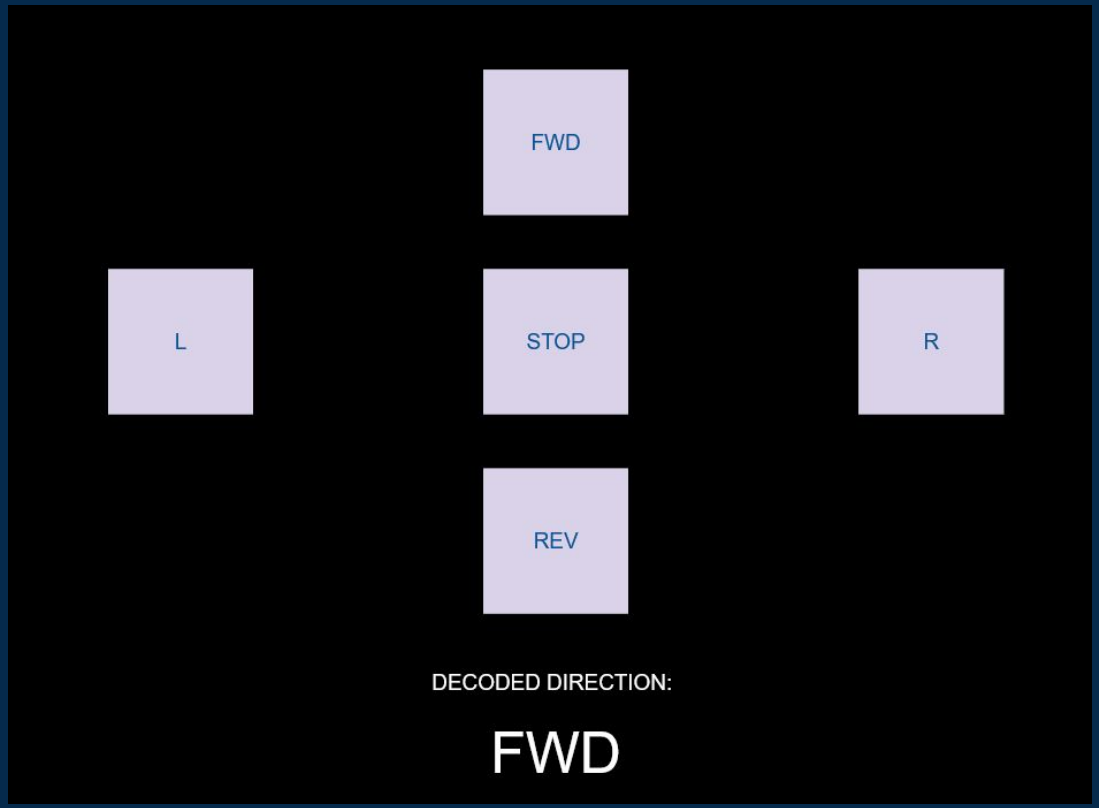


Fig. 3 - Graphical User Interface

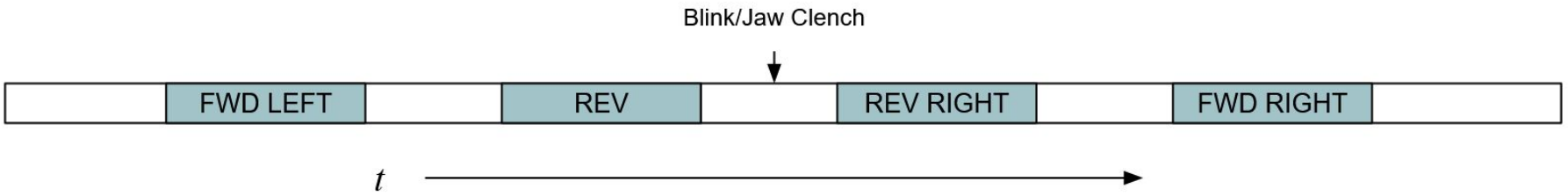


Fig. 4 - Training Session Example

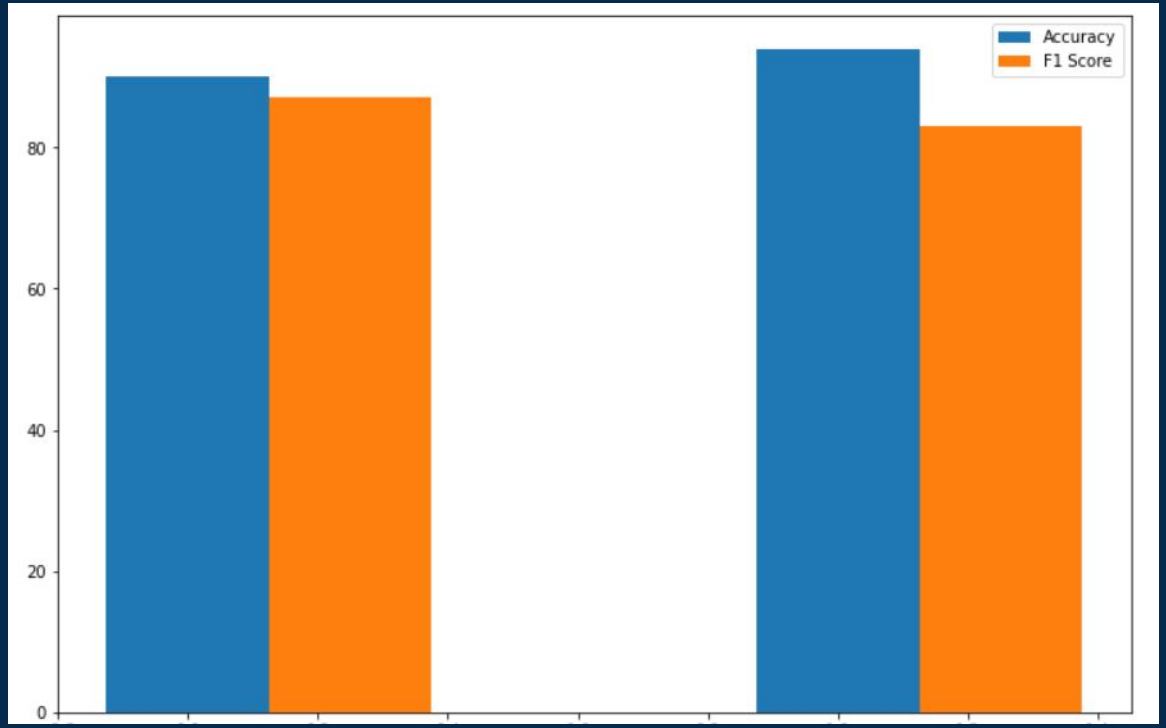


Fig. 5 - Simulated Classifier Accuracy and F1 Scores

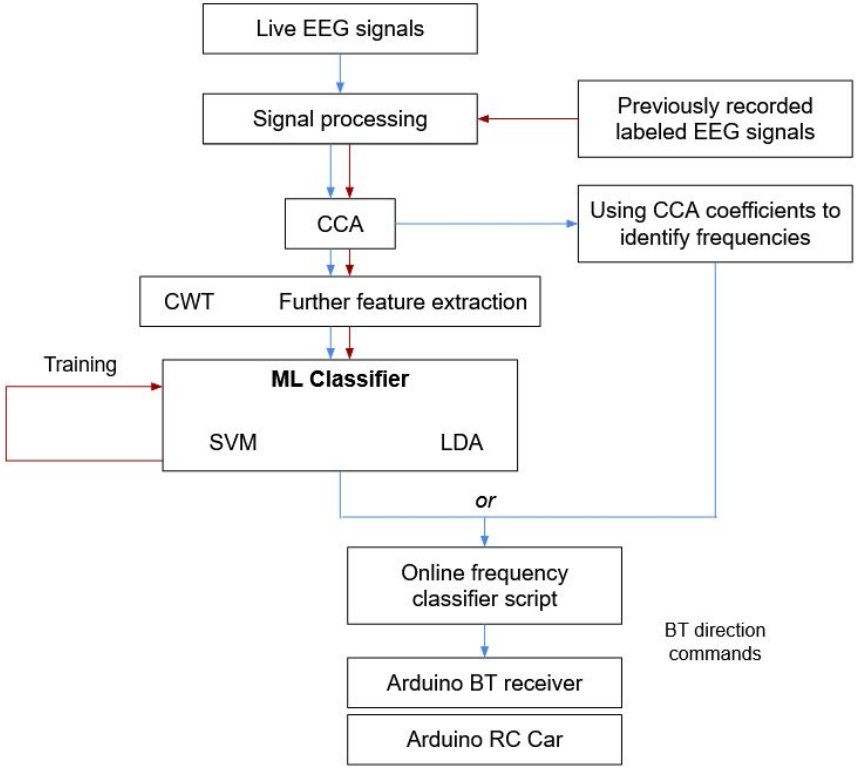


Fig. 6 - SSVEP Classification Schematic

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