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| Hand Movement Control Using EMG Signals | |
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| Group Members Courses Taken  * Improving Deep Neural Network (Coursera) * Neural Network (Coursera) * Sequence Models (Coursera) * Introduction to Data Visualization with ggplot2 (Datacamp) * CNN (Coursera) * Machine Learning (Andrew - Coursera) * Computer Vision Basics (Coursera) * Machine Learning with Python (Coursera) * Machine Learning Foundations: A Case Study Approach (Coursera) * Front-End Web UI Frameworks and Tools: Bootstrap 4 (Coursera) * Embedded Systems | Figures and IllustrationMachine Learning Based ModelDiagramsIllustration Like mentioned above, we seek to develop a full hand control using EMG data that we enter to a neural network model to get finally an output similar to output given for a well-health hand.  All this process could be done through machine learning frameworks like tensorflow or pytorch with any type of microcontrollers. |
| Additional Resources  * [EMG Controlled Hand Prosthesis - PDF](https://drive.google.com/file/d/1-yyxat0ELfmWew4goiR-2Sga5PUGpWMl/view?usp=sharing) * [EMG-Controlled Hand Prosthesis Project - Video](https://www.youtube.com/watch?v=96FvDCxGO9M&feature=youtu.be)  [Design and Implementation of an EMG Controlled - PDF](https://drive.google.com/file/d/1OGdCpAU-uR6H91Ebze5a7Y7BLSGw6zPX/view?usp=sharing)  * [More Figures and Diagrams - PDF](https://drive.google.com/file/d/1eMKfSPV9jr20ec0LOv8Of54r2x0Je4zj/view?usp=sharing) |
| Steps Done after Signal Detection  |  |  | | --- | --- | | Data Acquisition  Signal Conditioning  Normalization  Data Segmentation  Feature Extraction  Classification |  | | |