Analysis Progress

Real-time tracking of analysis components

Overall Progress 7/7 components complete

Analysis complete! Last updated: 1:05:30 PM

Component Status

Comparison Axes	complete	Patent Analysis	complete
Research Papers	complete	Market Analysis	complete
PCA Visualization	complete	Cluster Analysis	complete
Medical Assessment	complete		

Technology Overview

Full details of your technology

Technology Name

Social Robot

Number of Axes

5

Generated Problem statement

The technology addresses the problem of the shortage of rehabilitation professionals and the limitations of current telepresence systems in providing high-quality, interactive motor therapy and assessment, particularly in rural and underserved areas.

Generated Search Keywords

telepresence teletherapy haptics rehabilitation

Technology Abstract

The global shortage of rehabilitation professionals - especially in rural and underserved regions - presents a major challenge to delivering timely and effective neurorehabilitation. Traditional telepresence systems, while helpful for communication, lack the embodied interaction, expressiveness, and sensory feedback needed for high-quality motor therapy and assessment. This project leverages social robotics and brain-computer interface (BCI) technologies to enhance remote rehabilitation. The Flo robot, developed at Penn's Rehab Robotics Lab, is a humanoid robot with expressive facial features and articulated limbs, designed to facilitate interactive, remote rehabilitation sessions. When augmented with BCI control, Flo can personalize therapy, increase engagement, and support motor recovery more effectively than standard video-based systems.

⚖ Comparison Axes

Detailed analysis of comparison axes

Axis Name	Extreme 1	Extreme 2	Weight
Accessibility	Low Accessibility	High Accessibility	1
Interactivity	Non-Interactive	Highly Interactive	1
Specialization	General Purpose	Highly Specialized	1
Quality	Low Quality	High Quality	1
Adaptability	Inflexible	Highly Adaptable	1
Scalability	Non-scalable	Highly Scalable	1
User Interface Complexity	Complex	Simple	1
Cost	Expensive	Affordable	1
Data Security	Low Security	High Security	1
Outcome Measurement	Non-existent	Comprehensive	1

Comparison axes for the technology: Social Robot

Related Patents

Some related patents to your technology

No related patents or papers found for this technology.

Related Papers

Review relevant academic papers and research

No related papers found for this technology.

Market Analysis Insights

Comparative analysis against related patents.

Detailed Comparative Analysis

In-depth comparison with related patents and technologies

No detailed analysis available

Comparative analysis data will appear here once generated

PCA Visualization

PCA data, PCA view, or points data is not available.

Medical Assessment & Billable Items

Medical assessment and associated billable items

Hypothetical Recommendation based Guidelines

Recommendations

1. For billing purposes related to the provision of high-quality, interactive motor therapy and assessment for patients in rural and underserved areas, the following specific medical recommendations are provided based on the official ICD-10 guidelines:
2. **For Motor Neuron Disease (G12.2):**
3. - Bill under ICD-10 code G12.2 for patients diagnosed with Motor Neuron Disease. This includes all necessary assessments, treatments, and follow-up care specific to motor neuron disease management.
4. - Include charges for telehealth services, if applicable, to ensure patients in remote areas receive comprehensive care.
5. - Ensure documentation supports the diagnosis of Motor Neuron Disease, including EMG reports, clinical evaluations, and any relevant laboratory findings.
6. **For Pure Motor Lacunar Syndrome (G46.5):**
7. - Use ICD-10 code G46.5 for billing purposes when treating patients with Pure Motor Lacunar Syndrome. This should cover all therapeutic interventions aimed at improving motor function, including physical therapy and occupational therapy.
8. - Telehealth services for ongoing monitoring and therapy should be included under this code, with detailed records of each session's content and patient progress.
9. - Document evidence of Pure Motor Lacunar Syndrome through MRI findings or other diagnostic tools supporting the diagnosis.
10. **For Other Symptoms and Signs Involving the Nervous and Musculoskeletal Systems (R29.8):**
11. - Apply ICD-10 code R29.8 for a broad range of symptoms and signs not otherwise classified under a more specific diagnosis but related to the nervous and musculoskeletal systems. This can include unexplained muscle weakness, coordination problems, or other motor function issues.
12. - Billing should include comprehensive assessments to rule out or identify specific underlying conditions, including the use of telehealth platforms for evaluations and consultations.
13. - Documentation must detail the symptoms and signs observed, the extent of their impact on the patient's daily life, and any interventions provided or planned.
14. **General Recommendations for All Codes:**
15. - Ensure all telehealth and teletherapy services are coded correctly, including the use of place of service (POS) codes that reflect the remote delivery of care.
16. - Document all patient interactions, assessments, treatment plans, and progress notes thoroughly to support the use of these ICD-10 codes.
17. - Regularly review and update treatment plans based on patient progress and document these reviews for billing and auditing purposes.
18. By following these recommendations, billing staff can accurately process claims related to the treatment of patients with motor-related conditions, particularly in the context of telehealth and in serving rural and underserved populations.

Billable items based on identified medical Association: AAPMR

HCPCS Code	Description	Fee (USD)	Status/Notes
96365	Infusion into a vein for therapy, prevention, or diagnosis, 1 hour or less	$73.737	Billable

HCPCS Code	Description	Fee (USD)	Status/Notes
95907	Nerve conduction, 1-2 studies	$49.329	Billable
95908	Nerve conduction, 3-4 studies	$99.894	Billable
95909	Nerve conduction, 5-6 studies	$129.353	Billable
95910	Nerve conduction, 7-8 studies	$169.229	Billable
95911	Nerve conduction, 9-10 studies	$204.35	Billable
95912	Nerve conduction, 11-12 studies	$272.66	Billable
95913	Nerve conduction, 13 or more studies	$314.37	Billable
G0260	Injection procedure for sacroiliac joint; provision of anesthetic, steroid and/or other therapeutic agent, with or without arthrography	$420.319	Billable
80048	Blood test, basic group of blood chemicals (calcium, total)	$8.29	Billable

Total Fee: **$1,741.531**