**NeuroSymp Project Description: Neurological Disorder Symptom Assessment**

**Summary**

NeuroSymp is an AI-powered symptom assessment tool focused on evaluating symptoms related to common neurological disorders. It will guide individuals in understanding potential conditions and provide tailored recommendations for care. This platform is designed to bridge the gap between symptom onset and diagnosis, supporting patients.

**Application Domain**

NeuroSymp targets the healthcare and technology sector with an emphasis on neurology. The application acts as an early detection and awareness tool that specializes in the assessment of common neurological conditions. Its AI-driven approach leverages machine learning and pattern recognition to analyze the material. The software will primarily be developed as a web application for detailed and reliable assessments.

**Target Audience**

NeuroSymp will primarily serve individuals experiencing neurological symptoms (ex. headaches, tremors, dizziness) who want to understand seriousness of their condition and possible diagnosis before seeking medical care. Clinicians can also receive a copy of the symptom data to support early and accurate diagnosis with patient permission.

**Problem Statement**

Neurological disorders often present with complex and overlapping symptoms leading to delayed diagnosis and treatment. Misdiagnosis is common among other applications as general symptom checkers lack the specificity required for neurological conditions. Patients may delay seeking care due to uncertainty about the severity of their symptoms.

NeuroSymp addresses these challenges by focusing exclusively on neurological disorders by providing detailed symptom analysis and guidance to get timely medical attention.

**Key Features**

1. **Specialized Symptom Assessment**
AI algorithms tailored for neurological symptom evaluation focusing on common neurological disorders such as:
	* **Migraines**: Severe headaches, nausea, light and sound sensitivity.
	* **Epilepsy**: Recurring seizures, confusion, muscle spasms.
	* **Parkinson’s Disease**: Resting tremors, stiffness, slowness of movement.
	* **Multiple Sclerosis (MS)**: Fatigue, vision problems, muscle weakness.
	* **Alzheimer’s Disease/Dementia**: Memory loss, confusion, personality changes.
	* **Stroke**: Numbness, speech difficulties, sudden weakness.
	* **Peripheral Neuropathy**: Tingling, numbness, pain in extremities.
	* **Amyotrophic Lateral Sclerosis (ALS)**: Muscle weakness, difficulty speaking, respiratory issues.
2. **Personalized Recommendations**
	* Categorized guidance based on urgency:
		+ Self-Care: Suggestions for managing mild symptoms.
		+ Routine Consultation: Symptoms requiring non-urgent medical attention.
		+ Emergency: Symptoms needing immediate medical intervention.
3. **User-Friendly Input**
	* Guided symptom questionnaires designed to capture specific details relevant to neurological disorders
	* Simple interfaces for multiple choice and checkbox inputs to minimize user error
4. **Educational Resources**
	* Information on the next steps (ex. medical care, course of treatment)
	* Interactive tools to help users understand their neurological health
5. **Integration with Healthcare Systems**
	* Exportable reports for patients to share with healthcare providers.

**Impact**

NeuroSymp has the potential to improve early detection and patient education for neurological disorders. By offering neurological tailored assessments it allows users to seek timely care, reducing delays and improving overall outcomes. Healthcare providers can benefit from detailed symptom reports simplifying the diagnostic process.

Additional Material

* When to Seek Medical Care: <https://www.rush.edu/news/when-see-neurologist>
* Neurological Disorders & Symptoms: <https://www.hopkinsmedicine.org/health/conditions-and-diseases/neurological-disorders>
* Ada Health: <https://ada.com>
	+ Example of how existing AI symptom checkers operate including user experience and functionality