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## Design And Development Of Gripping Assistive Device For Post - Stroke Rehabilitation

by: **MOHD RAIS HAKIM**, **YUSOFF, HM** (Yusoff, Hazlina Md)<sup>[1]</sup>

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### Abstract

Report from The National Stroke Association of Malaysia (NASAM), the disease that cause most deaths is stroke which comes after cancer and heart attack. Even though most of the stroke cases is avoidable, rehabilitation will be in high demand. Devices as such has not been created and looking into since the therapist could not fulfil the demand. This project addresses a device to help post - stroke patients to grip and release their fingers as a rehabilitation working process. The system uses leap motion sensor as the input and the output is a servomotor-based exoskeleton. At the moment the system is based on a master-slave mechanism which needs a healthy hand to control the weak hand. The exoskeleton is still being tested on using linear-like actuator mechanisms to perform grasping and extension.

### Keywords

Author Keywords: rehabilitation; leap motion sensor; exoskeleton; linear-like actuator mechanisms

### Author Information

Reprint Address: Yusoff, HM (reprint author)

+ Int Islamic Univ Malaysia, Kulliyyah Engn, Dept Mechatron Engn, Kuala Lumpur, Malaysia.

Addresses:

+ [ 1 ] Int Islamic Univ Malaysia, Kulliyyah Engn, Dept Mechatron Engn, Kuala Lumpur, Malaysia

E-mail Addresses: rais25293@gmail.com; myhazlina@iium.edu.my

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- 1. An EMG-Based Robotic Hand Exoskeleton for Bilateral Training of Grasp** Times Cited: 1  
By: Loconsole, C.; Leonardis, D.; Barsotti, M.; et al.  
IEEE WORLD HAPT C 20 Published: 2013  
[\[Show additional data\]](#)
- 2. Wire-Driven Mechanism for Finger Rehabilitation Device** Times Cited: 1  
By: Mohammadan, S.; Komeda, T.  
P 2010 IEEE INT C ME Published: 2010
- 3. Development of th Grip Mechanism Assistant Device for Finger Rehabilitation** Times Cited: 1  
By: Mohammadan, S.; Osman, M. S.; Hing, J. W.  
7 INT C MACH AUT ISM Published: 2008
- 4. An EMG-controlled Exoskeleton for Hand Rehabilitation** Times Cited: 1  
By: Mulas, M.; Folgheraiter, M.; Gini, G.  
P 2005 IEEE 9 INT C Published: 2005
- 5. Design and Development of the Wearable Hand Exoskeleton System for Rehabilitation of Hand Impaired Patients** Times Cited: 1  
By: Pu, S. W.; Tsai, S. Y.; Chang, J. Y.  
2014 IEEE INT C AUT Published: 2014
- 6. Portable and Wearable Five-Fingered Hand Assistive Device** Times Cited: 1  
By: Surendra, W. A.; Tjahyono, A. P.; Aw, K. C.  
2012 19 INT C MECH M Published: 2012
- 7. An intention driven hand functions task training robotic system** Times Cited: 3  
By: Tong, KY; Ho, SK; Pang, PM.  
32 ANN INT C IEEE EM Published: 2010
- 8. Development of hand rehabilitation system for paralysis patient - universal design using wire-driven mechanism** Times Cited: 7  
By: Yamaura, H.; Matsushita, K.; Kato, R.; et al.  
31 ANN INT C IEEE EM Published: September 2-6 2009  
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