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# PAIN MEDICINE

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## Applications on Graded Motor Imagery

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Our applications bring graded motor imagery and mirror therapy to virtual reality, allowing for clinician control over direction of mirroring, smoothness of movement, gain and activity levels. It is aimed at patients who suffer from: 1) Lower Back Pain 2) Sport injuries 3) Repetitive Stress Injuries 4) Cervical Pain (e.g., “whiplash”) 5) Stroke-Related Pain 6) Fibromyalgia 7) Complex Regional Pain Syndrome (CRPS) 8) Phantom Limb Pain.

Karuna’s analytics platform captures individual patients’ movements based on motion tracking technology. We run machine-learning algorithms on in order to personalize the therapy session. Motion is tracked with a Leap Motion camera affixed to an HTC Vive headset. The mirror therapy/guided imagery application is written in the Unity Framework.

### Biography

Lincoln completed his BS in psychobiology in the year 2007 from University of California, Los Angeles. In the year 2011, he completed his MS in bioinformatics from The Johns Hopkins University. He worked as a software engineer in Cisco. Currently, he is the CEO of Karuna labs.

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