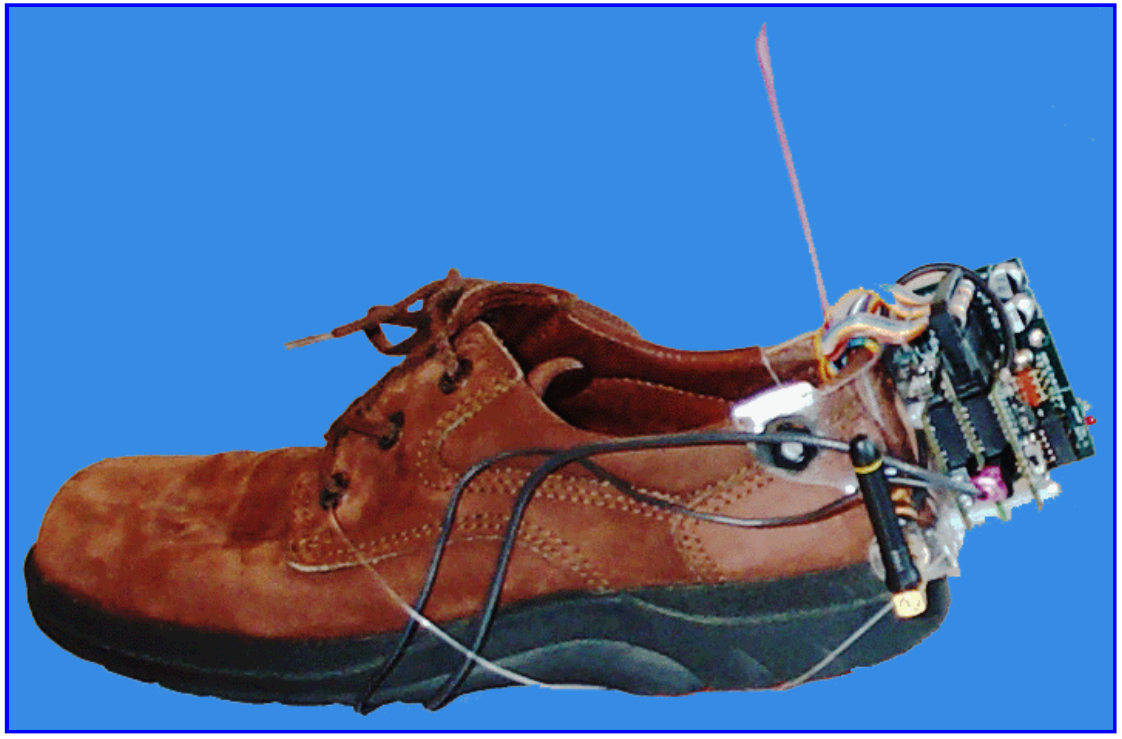
Wireless Wearable System for Gait Evaluation




Joe Paradiso


Stacy J. Morris


Ari Y. Benbasat

Hubert Pham

James Oey

S. Dan Lovell

Erik Asmussen

Philip Bramsen

This research involves the development of an on-shoe device that can be used for continuous and real-time monitoring of gait. This work involves the design of an instrumented insole and a removable instrumented shoe attachment, which will send data wirelessly, providing information about the three-dimensional motion, position, and pressure distribution of the foot. Algorithms will be developed to analyze the data in real-time, and results will be validated by comparison with data from a commercial optical gait analysis system at the Massachusetts General Hospital (MGH) BioMotion Lab. A small clinical study using this device will be carried out at MGH investigating the effects of physical therapy on subjects with Parkinson's disease. Finally, real-time feedback methods will be developed in order to investigate the feasibility and benefits of using the continuous monitoring of gait for physical

therapy and rehabilitation.

Link here for the detailed project page