



## Near-Realistic Sports Motion Analysis and Activity Monitoring

Tech ID: 29100 / UC Case 2012-106-0

### SUMMARY

UCLA researchers in the Department of Computer Science have developed a new technology to fight the growing obesity epidemic by encouraging exercise in video games.

### BACKGROUND

Human activity monitoring, through the use of body-wearable sensors, allows for many exciting possibilities, from gaming, to exercise, to preventative health care, where childhood obesity is a growing epidemic. Nearly one-third of all children are overweight or obese. Some of the main contributing factors to obesity are nutrition and lack of physical activity. It's currently estimated that children aged 2-19 spend ~8 hours watching video content and playing video games, largely sedentary activities. Introduction of technologies that aid in promoting physical activity by enforcing physical activity in video games may help combat the current obesity epidemic.

### INNOVATION

UCLA researchers led by Prof. Majid Sarrafzadeh have developed a novel sensor that enforces physical activity of humans playing video games as the controller. Body movements are communicated with the host computer that calculates physical activity via the metabolic equivalent of task, and runs signal processing algorithms to classify and enforce movements. The system not only allows physical activity, but also enforces it, leading to healthier gaming and accurate motion analysis.

### APPLICATIONS

A useful tool in combating childhood and adult obesity or in physical health rehabilitation.

### ADVANTAGES

- ▶ Integrates exercise with common leisure activity (e.g. video games)
- ▶ Promotes healthier gaming experiences
- ▶ Invention can be integrated with current gaming systems and technologies

### STATE OF DEVELOPMENT

Researchers have built working prototypes

### PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	10,201,746	02/12/2019	2012-106

### CONTACT

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### INVENTORS

- ▶ Sarrafzadeh, Majid

### OTHER INFORMATION

#### KEYWORDS

activity monitor, virtual reality, VR, interactive gaming, wearable technologies, biosensor, exercise monitor, obesity, exercise tool, exercise aide, activity tracker, exercise tracker, interactive controller, human-computer interface

#### CATEGORIZED AS

- ▶ **Biotechnology**
  - ▶ Health
  - ▶ Other
- ▶ **Computer**
  - ▶ Other
- ▶ **Medical**
  - ▶ Devices
  - ▶ Other
  - ▶ Software
- ▶ **Sensors & Instrumentation**
  - ▶ Biosensors
  - ▶ Medical
  - ▶ Other

#### RELATED CASES

2012-106-0

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

► [A Device, Methodology And System For Monitoring, Classifying And Encouraging Activity](#)

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