Center for Assistive Technologies to Enhance Human Performance

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What is iPertform?
The iPerform Center

AN INDUSTRY-UNIVERSITY COOPERATIVE RESEARCH CENTER (IUCRC)

iPerform is an NSF-funded IUCRC. There are over 75 IUCRCs across the US, but we are the only center that aims to bring together university and industry researchers to advance basic and applied research in Assistive Technologies.
Our mission is to innovate human performance and safety, produce assistive technologies and services, and to promote iPerform's industry members, researchers, and students.

DR. FILLIA MAKEDON & DR. OVIDIU DAESCU
IPERFORM DIRECTORS

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THE IPERFORM FAMILY
Center Organizational Structure

**UNIVERSITY OF TEXAS AT ARLINGTON**

**Site Director:** Fillia Makedon

**UNIVERSITY OF TEXAS AT DALLAS**

**Site Director:** Ovidiu Daescu

**UT SAN ANTONIO & UTHSC**

Planned Site

**Site Directors:** John Quarles & Maureen Simmonds

**UNIVERSITY OF SOUTH FLORIDA**

Planned Site

**Site Director:** Stephanie Carey
Industry Advisory Board Members

AT&T
Bosch
Dallas VA Research Corporation (DVARC)
NCSR Demokritos
NIST
NetApp
Speetra
Principal Investigators

UT Arlington
- Fillia Makedon
- Vassilis Athitsos
- Gautam Das
- Hong Jiang
- Shouyi Wang
- Nicolette Hass
- Christoph Csallner

UT Dallas
- Ovidiu Daescu
- B. Prabhakaran
- Ann Majewicz
- Carlos Busso
- Ryan McMahan
- Robert Gregg
- John Hanssen
Projects

- Virtual Reality Development Framework
- i\Work: A Smart Service for Vocational Assessment, Personalized Training, and Rehabilitation
- High-Performance Actuators for Powered Prosthetic Legs
Virtual Reality Development Framework

A SMOOTHER, FRIENDLIER VR EXPERIENCE

We have been developing a VR development framework to facilitate the rapid development of VR applications by providing the capability to drag and drop 3D interaction techniques with verified usability, VR-specific user interface components and dialogs, and event-driven simulation elements, particularly those that would support VR-based training and education.
VIRTUAL REALITY DEVELOPMENT FRAMEWORK
iWork

A SMART SERVICE FOR VOCATIONAL ASSESSMENT, PERSONALIZED TRAINING, AND REHABILITATION

iWork assesses a worker’s needs for training and rehabilitation in an experimental setup that simulates a factory. The system collects and analyzes multisensing human-robot interaction data and recommends personalized interventions that can improve the individuals for a particular job.
IWORK
High-Performance Actuators for Powered Prosthetic Legs

AN AGILE, FLEXIBLE, AND DYNAMIC LEG PROSTHETIC

This project involves the manufacturing, assembly, and experimental validation of a high-performance powered knee-ankle prosthesis for highly agile amputee locomotion. The knee and ankle actuators are designed with high torque motors and custom low-ratio transmissions (22:1 ratio).
HIGH-POWERED PERFORMANCE ACTUATORS FOR POWERED PROSTHETIC LEGS
List of Research Areas

- Robotics, robotic surgery, orthotics
- Personalized robot-based rehabilitation
- Multisensing
- Big Data
- Internet of Things
- Virtual Reality, Augmented Reality
- Disability Engineering
- Transportation
- Training, Ergonomics, Human Factors
- Social Media
- Cognitive/physical assessment and rehabilitation
- Telemonitoring, safety, cybersecurity, and surveillance
Why should I join iPerform?
Center membership gives you common ownership of the iPerform Center research portfolio.
Get Access to Cutting-Edge Research and Talent

Work with award-winning faculty, students, and labs that will work on projects guided by your interests and motivations!
Reduce Research Costs

Perform precompetitive research and prototyping with low overall costs!
Leverage Your Investment

Get access to the outcome of all funded projects, and enjoy royalty-free sharing of IP!
Expand Your Market Base

Interconnect with other members and pursue federal funding (SBIR, STTR)!
Target Your Recruitment and Training

Make sure your research partners and potential employees develop and use skill sets that match your business goals!
How do I join iPPerform?
Center Membership Fees

50K PER YEAR
1 FULL VOTE ON PROJECTS
10% OVERHEAD ON MEMBERSHIP FUNDS

Membership funds are channeled through the University Grants Offices.
This means that

90% of your membership fees
go directly into

your research interests

AS OPPOSED TO
ONLY 47%

Overhead for non-IUCRC projects
can be as high as 53%

Sources: http://www.uta.edu/research/administration/uta-infosheet.php and
https://research.uta.edu/osp/information-for-proposals
Industry Advisory Board Meetings take place twice a year: once in the spring, and once in the fall.

During these meetings, PIs present on research progress and pitch new research ideas. IAB members give feedback and vote on projects.
WANT MORE INFORMATION?

Get our newsletters and IAB Meeting flyers by emailing us at uta.iperm@ymail.com.

Send any specific questions or requests by directly contacting our coordinator, Cheryl Abellanoza, at cheryl.abellanoza@mavs.uta.edu.
Let iPerform help YOU perform!

We look forward to working with you to collaborate in innovative and exciting ways!

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