ORAU awards 35 research grants totalling $175,000 to junior faculty at its member universities; GDIT and the AREA fund single grants in new specialty areas

4th June 2024

The awards recognize faculty members for their work in any of five science and technology disciplines: engineering and applied science; life sciences; mathematics and computer science; physical sciences; and policy, management or education. GDIT's award funds research in supply chain innovation while The AREA's award focuses on augmented reality in the workplace.

"Each year, ORAU supports the research and professional development of emerging leaders at the universities who are members of our consortium," said Ken Tobin, ORAU chief research and university partnerships officer. "The Powe Award program is always extremely popular and very competitive. We are grateful to join with GDIT and The AREA in expanding the research focus of these awards."

"The AREA is excited about supporting faculty research in higher education to support the use of AR in the enterprise," said Mark Sage, AREA executive director. "Our mission is to further the adoption of interoperable AR-enabled enterprise systems."

Alex McGuire, GDIT's vice president and supply chain officer, added, "As a supply chain innovator, we're honored to support ORAU grant recipients and their research to advance and apply next-generation science and technology."

The Powe recipients, each of whom is in the first two years of a tenure track position, will receive $5,000 in seed money for the 2024-25 academic year to enhance their research during the early stages of their careers. Each recipient's institution matches the Powe award with an additional $5,000, making the total prize worth $10,000 for each winner. Winners may use the grants to

purchase equipment, continue research or travel to professional meetings and conferences.

Since the program's inception, ORAU has awarded 910 grants totaling more than $4.55 million. Including the matching funds from member institutions, ORAU has facilitated grants worth more than $9 million.

The awards, now in their 34th year, are named for Ralph E. Powe, who served as the ORAU councilor from Mississippi State University for 16 years. Powe participated in numerous committees and special projects during his tenure and was elected chair of ORAU's Council of Sponsoring Institutions. He died in 1996.

Recipients of the Ralph E. Powe Junior Faculty Enhancement Awards for the 2024-2025 academic year are listed below:

ORAU Award Recipient	Member Institution
Augusta University	Evan Goldstein
Catholic University of America	Dominick Rizk [*GDIT Award*]
Duke University	Di Fang
Fayetteville State University	Chandra Adhikari
Florida International University	Asa Bluck
Iowa State University	Esmat Farzana
Iowa State University	Qiang Zhong
Louisiana State University	Sviatoslav Baranets
Michigan Technological University	Tan Chen
Oakland University	Alycen Wiacek [*The AREA Award*]
Ohio State University	Zhihui Zhu
Penn State University	Tao Zhou
Purdue University	Justin Andrews
Tulane University	Daniel Howsmon
University of Alabama at Birmingham	Rachel June Smith
University of Alabama in Huntsville	Agnieszka Truszkowska
University of Arizona	Kenry
University of Arizona	Shang Song
University of Colorado Denver	Stephanie Gilley
University of Colorado Denver	Linyue Gao
University of Delaware	Yan Yang
University of Florida	Angelika Neitzel
University of Houston	Ming Zhong
University of Memphis	Yuan Gao
University of Mississippi	Yi Hua

University of New Mexico	Madura Pathirage
University of North Carolina at Charlotte	Lin Ma
University of North Texas	Linlang He
University of Oklahoma	Kasun Kalhara Gunasooriya
University of Texas at El Paso	Eda Koculi
University of Utah	Qilei Zhu
University of Wisconsin-Madison	Whitney Loo
Vanderbilt University	Alexander Schuppe
Vanderbilt University	Lin Meng
Virginia Tech	Jingqiu Liao
Washington University in St. Louis	Xi Wang
Yale University	Huaijin Ken Leon Loh

For more information on ORAU member grant programs, visit https://orau.org/partnerships/grant-programs/index.html.

ORAU provides innovative scientific and technical solutions to advance national priorities in science, education, security and health. Through specialized teams of experts, unique laboratory capabilities and access to a consortium of more than 150 colleges and universities, ORAU works with federal, state, local and commercial customers to advance national priorities and serve the public interest. A 501(c)(3) nonprofit corporation and federal contractor, ORAU manages the Oak Ridge Institute for Science and Education for the U.S. Department of Energy. Learn more about ORAU at www.orau.org.

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About the AR for Enterprise Alliance (AREA)
The AR for Enterprise Alliance (AREA) is the only global membership-funded alliance helping to accelerate the adoption of enterprise AR by supporting the growth of a comprehensive ecosystem. The AREA accelerates AR adoption by creating a comprehensive ecosystem for enterprises, providers, and research institutions. AREA is a program of Object Management Group® (OMG®). For more information, visit the AREA website. Object Management Group and OMG are registered trademarks of the Object Management Group. For a listing of all OMG trademarks, visit https://www.omg.org/legal/tm_list.htm. All other trademarks are the property of their respective owners.

The evolution of delivering immersive media over 5G/Cloud

4th June 2024

This blog post introduces a white paper from Ericsson, an AREA Member. The full paper can be read here.

Introduction

With the availability of more Augmented Reality (AR) and Virtual Reality (VR) headsets, people are starting to experience more realistic and interactive immersive services. Thanks to the advanced technology embedded into the headset we are getting more powerful devices, able to compute and render images of increasing resolution and quality. Yet the development of longer and more realistic experiences is progressing slowly, limited by battery consumption, device form factor, and heat dissipation constraints. Many service providers have started to deploy services in the cloud to address these issues. However, running the application in the cloud imposes additional challenges: latency, bandwidth, reliability, and availability of the service. 5G cloud architecture can overcome those issues with solutions that can be applied incrementally, each differently affecting the complexity of the application, but each improving the ultimate experience for the user. Additionally, the ultimate vision for 5G architecture as applies to immersive experiences calls for new relationships among the ecosystem members – the consumer, communications service provider, hyperscale cloud provider, and developer/service provider.

This paper examines key aspects to launch an immersive service using 5G cloud infrastructure. First, reviewing recent offerings and developments, then walking through a set of use cases each exploiting more and more offload to the cloud. We follow with a description of 5G technologies that satisfy the use cases, and finally, reflect on the evolution of the stakeholders' ecosystem in relation to their technical and commercial relationships to establish an immersive service using 5G.

Iristick announces major capital increase enabling accelerated user adoption

4th June 2024

Iristick's smart glasses are being used by professionals across industries in Europe and the US since the company was founded in 2015. Various large-scale proof-of-concept projects are underway, which are expected to lead to accelerated adoption of smart glasses in 2023-2024.

Currently, more than 700 companies rely on Iristick to help improve operational processes, from remote assistance to inspection for mission-critical processes. Beyond the basic use case of remote assistance, Iristick also develops tailored solutions in close partnership with major corporations in healthcare, oil & gas, crop inspection and logistics. In addition, Iristick also supports projects for telemedicine in developing countries as part of its social impact initiative, Social In Motion.

Key customers include Bayer, Siemens Energy, JBT, Houston Methodist Hospital, HG Molenaar, Aviapartner.

Through a partnership with global ATEX market leader ECOM, a Pepperl+Fuchs subsidiary, Iristick developed the breakthrough Visor-Ex® glasses for use in harsh and potentially hazardous environments, which are typical for ECOM's oil & gas customers.

Iristick will make follow-on investments in platform development, user adoption and sales & marketing in both Europe and United States. The company has appointed Karel Goderis, a software industry veteran, to lead this expansion, in close cooperation with the existing management team.

About Iristick

Iristick, based in Antwerp and New York, is a leading producer of smart glasses that enable handsfree communication and information sharing for the deskless workforce in various industries. Iristick smart glasses are being used globally for remote assistance, step-by-step workflow guidance, pick-by-vision and video conferencing. Iristick also supports NGOs with telemedicine

equipment in most underserved parts of the world, enabling teleconsultation and remote expert guidance in rural areas. The award-winning Iristick smart glasses are the most balanced and lightweight on the market, and they seamlessly connect with both iOS and Android smartphones.

Published on Feb 22, 2023

Magic Leap 2 is now commercially available

4th June 2024

Widespread availability of the Magic Leap 2 comes after a successful Early Access Program with companies like Cisco, SentiAR, NeuroSync, Heru, Taqtile, PTC and Brainlab. During this period, Magic Leap continued to refine and improve the device for training, communication, remote assistance use cases in clinical settings, industrial environments, defense, and retail stores.

"The Magic Leap 2 is the smallest and lightest augmented reality device built for the enterprise," said Peggy Johnson, CEO of Magic Leap. "After working with customers across industries like healthcare, manufacturing and the public sector, we're proud to release a device that features innovative breakthroughs critical to driving widespread adoption, including Dynamic Dimming™ technology, the industry's largest field of view, and unparalleled image quality and text legibility. Magic Leap 2 will take the current use cases to the next level, and we can't wait to see what our customers create."

Magic Leap 2 integrates new innovations to address the historical barriers that have prevented the widespread adoption of AR technology and are critical to making AR a valuable tool for daily use in the healthcare, manufacturing/light industrial, retail, and defense sectors.

Key features and innovations of Magic Leap 2 include:

- An open platform that empowers enterprises and developers with flexibility, cloud autonomy, and data privacy
- 20% lighter and 50% smaller in volume than Magic Leap 1
- Proprietary optics breakthroughs that enable best-in-class image quality, color fidelity, and text legibility
- Largest field of view (up to 70° diagonal), compared to similar, currently available AR devices
- Dynamic Dimming™ technology, a first-to-market innovation that enables Magic Leap 2 to be

used more effectively in brightly lit settings with greater image solidity

Each of these advancements is designed to increase utility, comfort, and sustained use, in order to deliver what the enterprise market has been asking for — a device that can provide an immediate return on investment and can be worn for extended periods of time.

Three Commercially Available Editions

Magic Leap 2 is available in three editions:

Magic Leap 2 Base edition is best for stand alone use by professionals and developers that wish to access the most immersive augmented reality device available.

Magic Leap 2 Developer Pro provides access to developer tools, sample projects, enterprise-grade features, and monthly early releases for development and test purposes. Only for internal use in the development and testing of applications. Use in commercial deployments and production environments is not permitted.

Magic Leap 2 Enterprise is designed for environments that require flexible, large-scale IT deployments and robust enterprise features. This tier includes quarterly software releases fully manageable via enterprise UEM/MDM solutions. Use in commercial deployments and production environments is permitted. Magic Leap 2 Enterprise comes with 2 years of access to enterprise features and updates.

Theorem Solutions – Placing models using QR codes in Augmented & Mixed Reality

4th June 2024

How to Use QR Codes in HoloLens 2 Mixed Reality

Video: Using the QR Code Offset tool in Microsoft HoloLens 2The QR code offset feature using QR Code Detection in Microsoft HoloLens 2, allows a QR code to be utilized as an origin point when visualizing 3D models in MR. In Theorem Solutions' Visualization Pipeline, users can set where the digital model will appear in relation to a QR code. Then any time you use a QR code to load the model it will appear in the same place.

This helps put models in context and allows users to see if something will fit in a certain location. For example, when seeing if parts would fit within an automotive setup, a QR code can be used to set the origin in the center of a car and digital models of parts can be positioned using the offset feature. This allows users to be more exact with the placement of their models when working with physical objects and digital models together.

Additionally, provided the QR code isn't moved, this feature allows users to load a model in the same place every time. This gives users greater flexibility to their work process, allowing users to look at multiple models in succession, and then revisit a previous model with the assurance that the model will remain exactly where it needs to be.

Using QR Codes in Augmented Reality