The AREA Welcomes Oakland University as a Member

23rd October 2024

“AREA can help our Augmented Reality Center effectively promote AR technology to industry partners, assisting them in improving operational efficiency and creating long-term benefits,” says Khalid Mirza, Ph.D., founding director of the Oakland University Augmented Reality Center.

Joining AREA will also give Oakland University’s augmented reality-engaged faculty greater capacity to make an impact through their research and scholarship and amplify their capacity to disseminate their work. Faculty can learn about other cutting-edge advances in the field and connect with potential collaborators and industry partners. Oakland University’s association with AREA and its members elevates its recognition as an educational leader in the Augmented Reality ecosystem.

“Through these efforts, OU can be a regional leader in AR training and research,” says David A. Stone, Ph.D., vice president for research at Oakland University. “AREA membership can accelerate our momentum in these directions.”

“We’re excited to have Oakland University as a member of the AREA,” said Mark Sage, Executive Director at the AREA. “We look forward to leveraging Oakland University’s research, training, and experience with AR to further the development of immersive applications.”

About Oakland University

Oakland University is a doctoral, Carnegie Classification R2 “High Research Activity” university located in Oakland and Macomb counties, Michigan. The main campus is located on 1,443 acres of scenic land in the Southeast Michigan cities of Rochester Hills and Auburn Hills. Oakland University offers bachelor’s degrees, graduate degrees and certificate programs and is organized into the College of Arts and Sciences with a School of Music, Theatre and Dance, the Oakland University

William Beaumont School of Medicine and the Schools of Business Administration, Education and Human Services, Engineering and Computer Science, Health Sciences, Nursing, and Honors College. The rich campus atmosphere is complete with residence halls, Greek life, Division I athletics and more than 300 student groups that lend to the total college experience. Learn more at www.oakland.edu.

About the Oakland University Augmented Reality Center

The Augmented Reality Center (ARC) represents a partnership between the Oakland University School of Engineering and Computer Science, the College for Creative Studies, and various corporate collaborators. Its mission is to provide students and industry professionals with the specialized skills required to create impactful immersive technology applications. ARC achieves this through a range of initiatives, including workshops, seminars, projects, and a showcase lab, all designed to promote exploration, innovation, and the practical use of immersive technology in industrial settings. For more information, visit the ARC at ouarc.org.

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.

Augmented Reality for Enterprise Alliance Announces its 10th Anniversary

23rd October 2024

“Innovation knows no bounds, and the AREA is proud to have been at the forefront of driving technological advancements and fostering collaboration within the AR ecosystem,” said Mark Sage, Executive Director of the AREA. “As we embark on the next chapter of our journey, we are excited to continue pushing the boundaries of what’s possible with AR and shaping the future of enterprise technology.”

Established in 2014, the AREA was born out of recognizing that AR held transformative potential for industries worldwide. With the mission to facilitate dialogue, share best practices, and advocate for AR adoption, the alliance united industry leaders, innovators, and experts to explore the vast possibilities of AR technology. Over the past decade, the AREA has achieved significant milestones:

- *Overcoming Barriers to Adoption*: Collaboratively, our members have diligently identified, classified, and prioritized AR security, safety, and human factors risks, culminating in developing comprehensive risk reduction recommendations.
- *Collaborative Research Initiatives*: The AREA has spearheaded groundbreaking research projects, fostering collaboration between industry stakeholders and academia to advance AR technologies and applications.
- *Knowledge Sharing and Education*: Through workshops, webinars, and conferences, the AREA has served as a knowledge hub, equipping professionals with the insights and skills needed to harness the full potential of AR in their respective fields.
- *Strategic Partnerships*: The AREA has forged partnerships with leading technology companies, startups, and research institutions, driving innovation and accelerating the adoption of AR across diverse industries.

“We envision a future where AR seamlessly integrates into everyday workflows, unlocking new possibilities for productivity, efficiency, and creativity,” Sage added.

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For more information, visit the AREA website.

Object Management Group Publishes Aviation and Aerospace Journal of Innovation

23rd October 2024

“The JoI now has an expanded scope to include articles from OMG’s consortia, including the OMG Standards Development Organization, the Augmented Reality for Enterprise Alliance (AREA), and Digital Twin Consortium® (DTC),” said Bassam Zarkout, CEO of IGnPower and Co-chair of OMG’s Thought Leadership Group. “We are thrilled to present the latest edition of the JoI under the expanded scope. This edition explores the theme of Pioneering Innovations in Aviation and Aerospace.”

The three articles in this edition include:

- Guiding Supply Chain Security in Aeronautic Development – by MITRE and Boeing – Assessing aeronautics supply chain risks is complex due to the lack of standardized risk sets, evaluation practices, and result communication methods. This article proposes leveraging System of Trust™ (SoT) to address these challenges. The article also discusses NASA’s effort to demonstrate real-world consequences and cost impacts on Boeing and Airbus due to supply

structure changes and volatility. This work leveraged MITRE's efforts to standardize security measurement and demonstrate its application and outcomes.

- Advancing Space Technology for ISAM Maturity and Success – by Dassault Systèmes – Like the golden age of flight 100 years ago, today we are in the golden age of commercial space. New space missions – in this case, In-Space Service, Assembly, and Manufacturing (ISAM) – enable space capabilities to expand the space economy, improve life on Earth, and extend our use of space farther than ever.
- Digital Engineering Enables Innovative Hardware Integration Opportunities in Aerospace – by SimVentions – Avionics systems need reliability and redundancy but face budget and time constraints. The US Navy's Hardware Open Systems Technology (HOST) standard provides a modular and open approach for hardware interoperability and reuse. However, reliance on homegrown tools limits its long-term value and data reliability. SimVentions' research for the US Navy led to the creation of the HOST Hardware Integration Toolkit (HHITS), demonstrating DE's value in enabling transformative automation and integration for avionics systems.

JoI articles have covered diverse topics and themes, including industry digital transformation, data in the industrial internet, solutions at the digital edge, the role of IoT in enabling rapid response to Covid, industrial artificial intelligence, intelligent transportation, innovations in digital twins, smart cities, smart factories, trustworthiness, and many more. Download current and past editions of OMG's JoI.

About OMG

When tech organizations, governments, and academia must solve discrete pieces of a technology puzzle or discuss matters of common interest, they often seek to join or form a consortium. Since 1989, Object Management Group® (OMG®) has created and nurtured a productive community with common technology interests and problems to resolve. OMG communities include Augmented Reality Enterprise Alliance (AREA), Consortium for Information and Software Quality™ (CISQ™), Digital Twin Consortium® (DTC), and OMG Standards Development Organization (SDO®). OMG is global, not-for-profit, and vendor-neutral. Visit OMG.

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Augmented Reality for Enterprise Alliance

Announces the AR Security Infographic

23rd October 2024

The infographic has ten sections for AR Security. The sections contain the risks and considerations related to the topic within AR. Each section has a summary to the left when it is clicked on. There is a detailed page for the section when clicking the ‘LEARN MORE’ button.

“AR headsets pose unique security risks for businesses. Traditional mobile security isn’t enough,” said Mark Sage, Executive Director of the AREA. “Vendors, IT departments, and users share responsibility for securing AR.”

The sections include:

Attack Surface—Pathways to infiltrate and corrupt data.

- **Connection Abuse—**Enterprises contain AR devices that connect many mobile devices. Understanding the network connections and potential threats at all levels is essential.
- **Physical Breach—**AR devices pose unique security risks because they collect real-world data (audio, video, location), unlike traditional IT systems.
- **System Breach—**AR devices introduce new security risks beyond those of mobile devices.

Data Domains – Nefarious agents use these domains to eavesdrop, pilfer, and exploit enterprises.

- **Trust Exploitation/Data Extraction—**AR devices pose unique security challenges due to their ability to interact with the physical world.
- **External Services/Physical World Data—**AR devices collect vast user data through cameras, sensors, and microphones.
- **Environment/Object/Visual Manipulation—**AR devices introduce unique security risks for businesses. Unlike traditional IT systems, AR devices collect real-world data (audio, video, location) that attackers can exploit.

Considerations –

- **Configuration & Management/Integrity Protection—**AR devices face mobile device security challenges, including logging, malware detection, and incident response.
- **Root of Trust/Physical Security—**AR devices require a hardware root of trust for core security functions due to their unique hardware and complexity.
- **I/O Security/Identity—**AR's unique hardware and data collection require careful security assessment of all components to minimize confidentiality, integrity, and availability risks.
- **Access Control/Monitoring & Analysis—**AR's new voice, gesture, and gaze controls make strong passwords difficult for secure access. Biometrics offers a solution, but integrating them securely company-wide is complex.

The AREA Security Committee member companies and Brainwaive LLC contributed expert insight to completing the AR Security Infographic.

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Augmented Reality for Enterprise Alliance Elects New President

23rd October 2024

As President, Ryan will serve as the organization's primary advocate, fostering partnerships, driving strategic direction, and ensuring the successful execution of programs and initiatives. Ryan replaces Boeing Technical Fellow Paul Davies, who served as AREA President for more than eight years, and continues as part of the AREA Executive Committee and as Vice President of the AREA Enterprise Segment.

At Collins Aerospace, Ryan leads the RTX XR Working Group, helps lead the RTX XR Community of Practice, and co-chairs the RTX Immersive & Interactive Visualizations Technology Interest Group. Ryan has also led teams that have invented numerous visual analytics and virtual reality-enabled applications.

"We're excited to announce Ryan Wheeler as President of the AREA," said AREA Executive Director Mark Sage. "With his technical background in AR/XR technologies and proven track record of working with AR/XR communities, we are certain he will steer the organization's efforts to make it easier for enterprises to adopt interoperable AR-enabled systems that fully deliver on their promises. I would also like to thank Paul Davies, Technical Fellow at Boeing, who has served as President for many years, and he will continue to actively be involved in the AREA."

About the AREA

The Augmented Reality for Enterprise Alliance (AREA) is the only global non-profit member organization. Whether you view it as the next computing paradigm, the key to breakthroughs in manufacturing and service efficiencies, or the door to unimagined applications, AR will have an unprecedented impact on enterprises of all kinds. AREA is a program of Object Management Group®. Visit https://thearea.org for more information.

Augmented Reality for Enterprise Alliance Publishes Latest Research on the Adoption of Real-Time AR-assisted Inspections for Quality and Compliance

23rd October 2024

“AR-assisted inspections can greatly benefit aerospace and defense, oil and gas, and healthcare industries due to intricate processes and inspection protocols, strict safety and quality compliance guidelines, and the high cost of downtime,” said AREA Executive Director Mark Sage. “AR solutions enhance task performance, reduce mental workload for frontline users, minimize errors, and allow for better utilization of resources.”

Common barriers to the adoption of AR-assisted inspections include:

- *Technological barriers* can be mitigated by establishing innovation hubs outside of their IT infrastructure to enable close evaluation of potential AR solutions for quality and compliance inspections.
- *Economic barriers* can be addressed by implementing scalable proofs-of-concept (POCs) that show tangible ROI for solutions using data and performance-driven KPIs. This showcases the potential savings and efficiency gains and provides flexible pricing models and financial incentives to lower the initial investment barrier.
- *Organizational barriers* require effective change management strategies. These include engaging stakeholders at all levels, providing comprehensive training programs, and designing intuitive, user-friendly AR solutions.
- Collaboration with governing and compliance bodies to establish clear guidelines and standards for AR-assisted inspections can mitigate *regulatory and compliance barriers*.

Please view an executive summary of the research report on The Adoption of Real-Time AR-assisted Inspections for Quality and Compliance from the AREA website. Vertical Realities completed the research report on behalf of the AREA.

The full report includes a comprehensive view of the factors affecting the adoption and implementation of AR solutions for inspection use cases and a template for measuring the direct impact of AR-assisted inspections (available to AREA members).

Please also consider the website's executive summaries of other AREA resources and enterprise guidance. To learn about AREA membership, visit the AREA website.

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The AREA Welcomes Net4 Connect as a Member

23rd October 2024

“We are delighted to join the AREA community. Becoming part of a network sharing our enthusiasm and passion for augmented reality was easy. The opportunity to share and gain knowledge with fellow members will be invaluable, benefiting us and our clients,” said Alex Taylor, CEO of Net4 Connect. “Through our membership, we hope to gain new insights, foster innovative collaborations, and stay at the forefront of industry advancements, ultimately enhancing our service offerings and driving success for our clients. We look forward to contributing to and growing with this vibrant community.”

“Net4 Connect is a welcome addition to the AREA,” said Mark Sage, AREA’s Executive Director. “We look forward to the contributions they will make to our alliance in the use of augmented reality and their knowledge and expertise in AI, IoT, and 5G.”

About Net4 Connect

Empowering Innovation with Cutting-Edge Technology Solutions. Visit our website: https://net4connect.com/.

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The AREA Welcomes HTC VIVE as a Member

23rd October 2024

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

23rd October 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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Augmented Reality for Enterprise Alliance

Announces the AR Safety Infographic

23rd October 2024

BOSTON, MA – MAY 9, 2024 – Today, the Augmented Reality for Enterprise Alliance (AREA) announced the AR Safety Infographic, a new tool that explores the benefits and potential safety risks of using AR in the workplace. By carefully considering safety before deploying AR solutions, organizations may be able to avoid issues before they occur.

Each section contains the benefits and challenges of using AR and includes a summary to the left when it is clicked on. There is also a detailed page for the section when clicking the 'LEARN MORE' button to help you understand the benefits and potential risks and how to manage them.

"Our mission is to help companies in all parts of the AR ecosystem achieve greater operational efficiency through the smooth introduction and widespread adoption of interoperable AR-assisted enterprise systems," said Mark Sage, Executive Director of the AREA. "Our AR Safety Infographic provides reliable guidance that makes the path to AR adoption surer, shorter, and smoother."

The sections include:

AR Experience – integrates the digital and physical worlds seamlessly, and any interactions should feel like you are interacting within a real-world environment.

Cognition – Effective use of technology-based environments and augmented reality reduces cognitive load by scaffolding information and lessons' contents

Sensory – Engaging in immersive experiences can offer many benefits, catering to personal growth, entertainment, education, and even therapeutic purposes.

Environmental – Augmented Reality has all the trapping to encourage sustainability in the energy sector; AR is being used to power renewable energy systems by providing a more detailed understanding of energy sources and their potential.

Physical – The most prevalent benefit is the AR headset experience, enabling users to see their

physical surroundings while interacting with virtual assets. This allows not only safety for the user by seeing their surroundings but also mobility.

Devices & Accessories – Augmented Reality Devices encompass various hardware, each offering unique immersive experiences.

See the AREA website for member companies contributing to the AR Safety Infographic.

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