

iVi 2023

2ND ANNUAL INTERNATIONAL VIRTUAL INSTRUCTOR CONFERENCE



DECEMBER 15th & 16th, 2023

iVi 2023 Conference Chairs

Jayfus Tucker Doswell, PhD, The Juxtopia Group, Inc.

Cyrus Green, MS, MBA, DBA, The Juxtopia Group, Inc.



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iVi 2023

2nd Annual International Virtual Instructor Conference

iVi

noun

iVi is an acronym for intelligent virtual instructor (ivi). A virtual instructor (Vi) is an autonomous natural human-computer interface that delivers culturally competent, empathetic, and ethical (CCEE) personalized instruction and improves human learning performance by juxtaposing knowledge of empirically researched instructional techniques (i.e., pedagogy, andragogy) and how humans learn/ behave with advanced capabilities to continuously collect information about learners and/ in their formal/ informal learning environments.

The iVi is embodied (e.g., graphical, holographic, robotic, etc.), amorphous, verbal, non-verbal, ubiquitous, and accessible from mobile mixed reality environments (e.g., real-world, augmented reality, virtual reality, augmented virtuality).

The iVi serves as a continuously evolving symbiotic assistant, instructor, coach, tutor, mentor, and/ or counselor programmed with the central objective of improving human performance® irrespective of the learners' culture, cognition, and socio-economic level.

The iVi shall apply multimodal artificial intelligence (AI) to quantifiably deliver intelligent augmentation (IA) services for improving human performance®

- Dr. Jayfus Tucker Doswell

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PROGRAM SCHEDULE

Friday, December 15th - Day One

Time	Presentations
7:30 a.m. - 8:30 a.m.	<p>Sign up for JUICE Money SBIR/STTR Sign-Up to Secure AI Education funding. Jayfus T. Doswell, PhD, JUICE Network Co-Director Cyrus Green, MS, MBA, DBA, JUICE Network Co-Director</p> <ul style="list-style-type: none"> • Schedule JUICE Money proposal writing assistance sessions. Present pitch. • Schedule JUICE Innovation match w/ HBCUs, HSI, Tribal College, and/or Minority Small Business
9:00 a.m. - 9:25 a.m.	<p>Conference Welcome & Overview</p> <ul style="list-style-type: none"> • Jayfus T. Doswell, PhD, iVi 2023 Conference Chair • Cyrus Green, MS, MBA, DBA, iVi 2023 Conference Co-Chair
9:30 a.m. - 10:15 a.m.	<div style="display: flex; align-items: flex-start;">  <div> <p>Keynote Speaker: Jayfus Tucker Doswell, PhD Founder, President/CEO, Juxtopia, LLC Chairperson, The Juxtopia Group, Inc. Director, Artificial Intelligent (AI) Virtual Instructor Pilot Research Group (VIPRG)</p> <p>Dr. Doswell will present the future and implications of culturally competent, empathetic, and ethical (CCEE) artificial intelligent (AI) educators programmed with capabilities to autonomously train, coach, mentor, and evaluate human learning across known & future skills and trained with an objective of continuously improving human performance®.</p> <p>In 2005, Dr. Doswell created the world's first AI educator system/software architecture derived from his PhD dissertation and codified the world's first AI educator standard under the AI-VIPRG; a program administered by The Juxtopia Group, Inc.</p> <p>Moderator: Cyrus Green, MS, MBA, DBA</p> </div> </div>
10:20 a.m. - 10:50 a.m.	<p>Secure JUICE Money SBIR/STTR Funding for Advanced Learning Technology R&D Cyrus Green, MS, MBA, DBA, Co-Director, JUICE Network</p> <p>Moderator: Jayfus T. Doswell, PhD</p>
BREAK	
Sessions	
11:00 a.m.-11:15 a.m.	<p>AI Assistant for Disabled Shopping Navigation An autonomous robot shopping cart that uses artificial intelligent (AI) algorithms to intelligently self-navigate blind persons throughout grocery stores and assist them select and purchase products.</p> <p>Angelina Gauthney, President/CEO of Assistive Technology Publishers, LLC Marvin Armstrong, Assistive Technology Publishers, LLC</p>
11:20 a.m.-11:35 a.m.	<p>AI-Juxtopia® Intelligent Police Instructor (JiPi) Police Cognitive Assist for Weapon Detection An artificial intelligent (AI) computer vision algorithm that accurately and quickly identifies the presence of illegal weapons and distinguishes objects that, historically, are mistaken as weapons by law enforcement personnel.</p> <p>Anthony Parker, Undergraduate Student, Computer Science Major, Bowie State University Jayfus T. Doswell, PhD, President/CEO, Juxtopia, LLC</p>

PROGRAM SCHEDULE

Friday, December 15th - Day One

Sessions

11:40 a.m.-11:55 a.m.

AI Wearable Asthma Monitor Pal for Children

A culturally competent, ethical, and empathetic (CCEE) artificial intelligent embodied conversational agent that assist minority children with asthma inhaler compliance.

Kimberly Armstrong, President/CEO, Abeona Group, LLC
Jie Yan, PhD, Professor, Computer Science, Bowie State University

12:00 p.m. -12:15 p.m.

Virtual Reality Distributed AI Traffic Control Trainer

A culturally competent, ethical, and empathetic (CCEE) artificial intelligent (AI) air traffic controller to train underrepresented minority women for jobs as air traffic controllers.

Ashley Wimbush President/CEO, Alpha Whiskey, LLC

LUNCH (JUICE Money SBIR/STTR Specific Aims Pitch & Review)

12:20 p.m. - 1:20 p.m.

Sessions

1:25 p.m.-1:40 p.m.

Virtual Reality Intelligent Career Instructor

Artificial intelligent career instructor that e-trains college students on job ready "soft-skills" within a VR environment.

Cameron Minor, BS, Juxtopia, LLC
Jerrod Jaramogi, BS, Juxtopia, LLC

1:45 p.m.-2:00 p.m.

Intelligent Whole Community Disaster Preparedness

a "cloud" accessible artificial intelligence (AI) whole community disaster preparedness (iWCDP®) emergency response decision support software as a service (SaaS) to capture, quantify, and coordinate emergency response resources within vulnerable communities.

Joseph Daniels, President/CEO, The Josa Group, LLC
Ralph Rivera Gutierrez, MSW, PhD, Director, University of Puerto Rico, Medical Sciences Campus, UPR-Center for Public Health Preparedness, San Juan, Puerto Rico
Annelle Primm, MD, MPH, Convener All Healers Mental Health Alliance
Vincent B. Davis, MCP, NEMAA, Director, Disaster Services for Feeding America
Jayfus T. Doswell, PhD, President/CEO, Juxtopia, LLC

2:05 p.m.-2:20 p.m.

Virtual Reality CS Trainer for Autistic Children

An VR educational platform for training autistic children to learn computer science skills for software engineering jobs.

Dinali Nelushi Jayawardana, PhD Candidate, Bowie State University

2:25 p.m.-2:40 p.m.

AI-Dira to Train & Recruit Minorities for Clinical Trial

A culturally competent, ethical, and empathetic (CCEE) artificial intelligent embodied conversational agent that trains and recruits BIPOC aging-in-place populations for Alzheimer clinical trials.

Gerard Charlot, President/CEO, Idhini, LLC
Trevor Alexander, Vice President, Idhini, LLC
Jayfus T. Doswell, PhD, President/CEO, Juxtopia, LLC

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 Virtual Instructor
 Pilot Research
 Group
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PROGRAM SCHEDULE

Friday, December 15th - Day One

Sessions	
<p>2:45 p.m.-3:00 p.m. AI-JiNi to Train Student Nurses in Clinical Skills A culturally competent, empathetic, and ethical (CCEE) artificial intelligent (AI) student nurse trainer that uses HAR deep learning to autonomously evaluate clinical competency of IV and IM skills using JiBand wearable and augmented reality (AR) Goggles.</p> <p>Arthur Chinery, JET, Software Engineer, Juxtopia, LLC Brandon Brockington, JET, Industrial Designer, Juxtopia, LLC Marcus Messam, JET, Electrical Engineer, Juxtopia, LLC Lemuel Mutah, JET, Computer Science, Tuskegee University Kaiya Jones, JET, Computer Science, Tuskegee University Kolby Monts, JET, Cybersecurity, Juxtopia, LLC Jamihl Braima, JET, Project Manager, Juxtopia, LLC Jayfus T. Doswell, PhD, President/CEO, Juxtopia, LLC</p>	<p>3:05 p.m.-3:15 p.m. STOMP-OD with AI Cognitive Assist for the CHW An artificial intelligent (AI) assistant that deploys and provides on-demand clinical assistance to community health workers (CHW) who deliver point-of-care Narcan and CPR treatment to persons suffering from opioid use disorder (OUD).</p> <p>June Haygood, President/CEO, Application Operation, LLC</p>
<p>3:20 p.m.-3:35 p.m. Empowering Mothers with Maternal Connect Using machine learning to provide Black pregnant women access to resources and treatment options for planning, engaging, and decision-making that were previously limited before, during, and after pregnancy.</p> <p>Melva Covington, MPH, MBA, PhD, People Empowering People for Inclusion Now, LLC (PEPIIN)</p>	<p>3:40 p.m.-3:55 p.m. The Remote Utilization of Simulation to Assess Undergraduate Nursing Students' Competency in Performing Intravenous and Intramuscular Procedures The pilot research study's purpose was to investigate the utilization of simulation in a remote practice environment to provide a competency-based educational experience to student undergraduate nurses on clinical skills for intravenous (IV) and Intramuscular (IM) injections. The study used a novel artificial intelligence (AI) software product, Juxtopia Intelligent Nursing Instructor (JiNi), to autonomously e-tutor and e-evaluate clinical skills. The undergraduate nurses utilized learning resources, demonstration videos, and AI-assessable devices (wristbands and goggles) for unlimited practice experience in nontraditional settings that were all remote</p> <p>Joan Tilghman, PhD, RN, CRNP, WHNP-BC, CNE, Coppin State University, School of Nursing Jayfus T. Doswell, PhD, President/CEO, Juxtopia, LLC Cotie Moss, BSN, RN (Doctoral Student), Coppin State University School of Nursing</p>

Closing Session – Day One (4:00 p.m.-4:20 p.m.), Dr. Jayfus T. Doswell, Dr. Cyrus Green

PROGRAM SCHEDULE

Saturday, December 16th - Day Two

Time	Presentations
9:00 a.m. - 9:15 a.m.	iVi 2023 Team Welcomes Participants - Recap and Day Schedule <ul style="list-style-type: none"> Jayfus T. Doswell, PhD, iVi 2023 Conference Chair Cyrus Green, MS, MBA, DBA, iVi 2023 Conference Co-Chair
Sessions	
9:15 a.m.-9:30 a.m. AI Enabled Head-Worn Climate Control Device Innovative head gear that auto assesses outdoor and body worn temperature to early predict and prevent heat-related illnesses (HRIs) and injuries. Larry Summerville , ThermoReg Phillip Niles , ThermoReg	9:35 a.m.-9:50 a.m. AI-ML Clinical Trial Eligibility Screening A machine learning algorithm that screens for and matches BIPOC populations for Alzheimer's clinical trials. Katrina Polk, PhD , President/CEO Dynamic Solutions for the Aging, LLC
9:55 a.m.-10:10 a.m. AI-JiMi for e-Training Military Medical Skills Artificial Intelligent (AI) military medic instructor for delivering on-demand tactical combat casualty training through mixed reality environments. Brandon Brockington , JET, Industrial Designer, Juxtopia, LLC Arthur Chinery , JET, Software Engineer, Juxtopia, LLC Marcus Messam , JET, Electrical Engineer, Juxtopia, LLC Timothy Smith , JET, Mechanical Engineer, Juxtopia, LLC Uzochi Anaele , Student, CS, Bowie State University Jabaree Rich , JET, Juxtopia, LLC Jayfus T. Doswell, PhD , President/CEO Juxtopia, LLC Ken Wilson, MD , Professor of Surgery, Director of Pediatric Trauma, University of Chicago.	10:15 a.m.-10:30 a.m. AI-Dani Counselor for OUD Pregnant Black Women An artificial intelligent (AI) educator and counselor that helps Black pregnant women transform opioid use disorder behaviors to better care for their unborn child. Danielle Tolson, MSW, MPH , Howard University
10:35 a.m.-10:50 a.m. AI-JiPi to e-Train Police to De-Escalate Using Non-Lethal Force to Mitigate Preventable Morality of African American Males A culturally competent, empathetic, and ethical (CCEE) artificial intelligent (AI) police instructor that trains police through augmented reality and virtual reality environments. Uzochi Anaele , Student, CS, Bowie State University Jayfus T. Doswell, PhD , President/CEO Juxtopia, LLC Dan Richichi , Vice President, CAMMRAD Police, Juxtopia, LLC	10:55 a.m.-11:10 a.m. Enhancing Police Crime Scenes through Immersive VR Training A full immersive virtual reality (VR) environment to train crime scene investigators how to effectively document the crime scene including, but not limited to, how to take photographs and physical measurements of the scene; identify & collect forensic evidence, maintain proper chain of custody of that evidence; collect evidence such as fingerprints, footprints, tire tracks, blood and other body fluids, hairs, fibers and fire debris. John Mullinix , CGO, Voxbox Al Ware , President, VoxBox Erich Kottle , Director, Marketing Strategy, VoxBox

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PROGRAM SCHEDULE

Saturday, December 16th - Day Two

Sessions

11:15 a.m.-11:30 a.m.

AI Manufacturing Instructor Using Augmented Reality to troubleshoot 3D Printer Errors

A personalized AI manufacturing instructor for e-training 3D printer assembly and troubleshooting errors.

Timothy Smith, JET, Industrial Engineer, Juxtopia, LLC

11:35 a.m.-11:50 p.m.

Analyzing the Impact of Mobile Devices and Student Engagement

The impact of mobile learning devices on student engagement, motivation, academic retention, and academic success for students in academic recovery.

Dominique Bailey, PhD Candidate, Florida Agricultural and Mechanical University

11:55 a.m.-12:10 p.m.

AI-Jiai to Train Children in Violin and Piano

An artificial intelligent (AI) violin instructor to autonomously e-train lower income underserved and disadvantaged children in beginning violin skills.

Jayfus T. Doswell, PhD, President/CEO, Juxtopia, LLC

JUICE Innovate Brainstorm Session Engineering AI Educators

12:15 p.m. - 3:05 p.m.

Engineer a CCEE Self-Aware AI Educator from the Juxtopia® VIPRG Platform

Moderator: **Cyrus Green, MS, MBA, DBA**

iVi 2023 Closing Session

3:10 p.m. - 3:25 p.m.

Jayfus T. Doswell, PhD, iVi 2023 Conference Chair
 Cyrus Green, MS, MBA, DBA, iVi 2023 Conference Co-Chair



Conference Chair Biography



Jayfus Tucker Doswell, PhD, Juxtopia®

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<http://www.juxtopia.org/>

Dr. Doswell is the founder, president, and Chief Executive Officer (CEO) of Juxtopia®, a privately held for-profit biomedical and information technology company with a mission for improving human performance®. Dr. Doswell earned a Bachelor of Arts (BA) from Oberlin College with degrees in Cognitive Neuro-Psychology and Computer Science; a Master's degree in Systems and Computer Science from Howard University; and a Ph.D. degree in Information Technology from George Mason University. His Dissertation, defended in 2005, created the world's first culturally adaptive artificial intelligent (AI) virtual instructor software architecture to deliver personalized instruction to underserved populations in mixed reality (e.g., augmented reality, virtual reality) environments. Prior to starting Juxtopia®, Dr. Doswell led several commercial engineering teams at Fortune 500 companies ranging from Lockheed Martin and SAIC to KPMG as their senior

software engineer. Dr. Doswell also contributed to early biomedical and nanotechnology informatics algorithms while working at the National Cancer Institute to help create better cancer treatments.

Dr. Doswell invented and successfully led Juxtopia® to secure research and development (R&D) funding for the development of Juxtopia's innovative wearable technology products for improving human health and learning. Dr. Doswell invented and successfully developed Juxtopia®'s innovative wearable technology products for improving human health and learning. The Juxtopia® Augmented Reality (AR) platform is one wearable technology platform from which various wearable AR products are created for improving human training ranging from neurosurgery to public health response training. From this platform, Dr. Doswell led Juxtopia to secure an unprecedented 1st of its kind contract to engineer innovative e-training technology to train all U.S. Army 68W medical personnel to improve their tactical combat casualty care (TC3) skill proficiency. Recently, Dr. Doswell led Juxtopia® to secure a NIH SBIR Phase I grant entitled "Artificial Intelligent Augmented Reality Police E-Trainer for Culturally Competent De-Escalation and Non-Lethal Force Police Training to Eradicate Police Against Police Violence Against Black Males." <https://bit.ly/3EMCu4M>. Dr. Doswell was one of 20 competitors, nationwide, in the National Institutes of Aging Healthy Aging Start-Up Challenge and Bootcamp to Foster Diversity and Accelerate Innovation.

Observing the problems that prevent untapped, underrepresented communities/companies around the world, to achieve high-growth markets, Dr. Doswell created the Juxtopia® Urban Innovation and Cooperative Entrepreneurship (JUICE) Network. The JUICE Network guides minority companies, Historically Black Colleges and Universities (HBCUs) and other minority institutions (OMI), and federal labs to transition their innovative concepts to commercial products; at which those underrepresented populations may increase their skill proficiency to contribute to improving human performance® eradicating economical and health disparities.

To aid in combating the COVID-19 pandemic in Black and other minority communities, Dr. Doswell served as Principal Investigator, Juxtopia® Strategic Partner to Morehouse School of Medicine (MSM)/National COVID-19 Resiliency Network (NCRN).

Dr. Doswell is former Chair of the American Public Health Association Health Informatics and Information Technology (HIIT) Section. He is a member of several professional organizations and Boards, including: the American Telemedicine Association; the Association of Computing Machinery; Institute of Electrical and Electronics Engineering; Maryland Cybersecurity Counsel; and Maryland Telemedicine Committee. Dr. Doswell also sits on external advisory committees at colleges/universities across the United States.

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Conference Co-Chair Biography



Cyrus Green, MS, MBA, DBA, Juxtopia®
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Cyrus Green has over 10 years of business experience spanning engineering, business process improvement, financial services, and risk management. He holds a Bachelors of Science in Engineering Physics from Morgan State University, a Masters of Science in Optical Engineering from Norfolk State University, and Master of Business Administration from The Carey School of Business, Johns Hopkins University. Cyrus Green is certified in Lean Six Sigma Business Process Improvement as a Yellow & Green Belt, CFA® Institute Investment Foundations, LOMA Level 1 Associate, Secure Retirement Institute (ASRI®) and Level II & III Fellow, Secure Retirement Institute (FSRI ®). Control Self-Assessment: Facilitation Skills Certificate from the Institute of Internal Auditors. Cyrus Green is a member of T. Rowe Price's Toastmaster Club, completed Competent Communicator and Competent Leader and held the office of Area Director, President, VP of Membership and Treasurer. Cyrus Green is also Assistant Vice President, Lead Manager in the T. Rowe Price Group, Inc. T. Rowe Price Associates Inc., and T. Rowe Price Investments Services, Inc. heading the continuity of Individual & Retirement Plan Services, Global Investment Management Services and Product. Cyrus Green serves as the Director of Technology Transfer and Commercialization who partners with CEO and Lead Teams of micro-enterprises grow their venture from concept to commercialization.



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American Public Health Association,
Health Informatics Information Technology

The National Great Blacks in Wax Museum

Associated Black Charities

The JUICE Network

Virtual Instructor Pilot Research Group





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