FEDERAL AGENCY FUNDING OPPORTUNITIES	ARTIFICIAL INTELLIGENCE / MACHINE LEARNING	ROBOTICS / AUTONOMOUS VEHICLES	QUANTUM	CYBERSECURITY / PRIVACY	5G, WIRELESS SPECTRUM, NETWORKING & COMMUNICATIONS	ADVANCED MANUFACTURING	MICROELECTRONICS	CLIMATE CHANGE / GREEN ENERGY & IT	OTHER IT RELATED	STEM / WORKFORCE & IT	STEM / WORKFORCE RESOURCES & OPPORTUNITIES

NITRD News Brief

We are pleased to continue NITRD's News Brief that offers insight into the activities NITRD's member agencies are conducting to achieve the Nation's priorities through the lens of the public-facing news sources. These are divided into networking and information technology topics that have been identified as of great importance for improving Americans' daily lives.

For ease of access, under NITRD's logo, the title of each section is listed as a link to that section. The titles of the articles under the section's heading are links that provide immediate access to the news article listed. We hope you find this informative and helpful in your daily activities.

Do you know someone who would like to receive NITRD's weekly news brief? They can email NITRD's IT aficionados at nco@nitrd.gov and voilà they will receive the news brief with the cool technology articles each week!

Federal Agency Funding Opportunities

Biden-Harris Administration invests $60 million through NOAA to create a Climate-Ready Workforce through Investing In America agenda
...National Oceanic and Atmospheric Administration (NOAA) opened a competitive funding opportunity for the Climate Ready Workforce for Coastal States, Tribes, and Territories Initiative to connect people across the country to good-paying jobs, such as landscape technicians, heat health outreach specialists and climate equity officers, that tackle the climate crisis and boost local resilience. NOAA will invest $60 million total from the Inflation Reduction Act for the initiative — a $50 million competitive funding opportunity and $10 million for technical assistance to support applicants and grantees. NOAA aims to grant between 10-20 awards under this competition, at amounts ranging from $500,000-$10 million each. Informational webinar #1 - July 11 at 3 p.m. Eastern. Letters of intent are required and due by November 30, 2023 with applications due by February 13, 2024...
National Oceanic and Atmospheric Administration - Jun 29, 2023

Artificial Intelligence / Machine Learning

Readout of White House Listening Session with Union Leaders on Advancing Responsible Artificial Intelligence Innovation

...On Friday, June 30, senior Biden-Harris Administration officials convened a listening session with leaders and officials from the labor community to discuss the implications of artificial intelligence (AI) for workers, unions, the quality of jobs, and the future of work. During the session, White House principals emphasized that, while AI has the potential to bring significant benefits, government and employers need to collaborate with unions to fully understand the risks for workers and how to effectively mitigate potential harms. Participants shared examples of employers who have used AI tools to track workers' pace of work and monitor work quality. These uses of AI, union leaders noted, have often introduced inaccuracies and tended to raise workplace stress and worsen mental health. At the same time, leaders shared some instances where AI tools have helped support workers in their jobs by monitoring and easing the physical toll of some repetitive or dangerous tasks. Friday's meeting builds on considerable steps the Administration has taken to date to promote responsible innovation and mitigate the risks from AI...
The White House - Jul 3, 2023

Generative AI Raises Competition Concerns

...The FTC's Bureau of Competition, working closely with the Office of Technology, is focused on ensuring open and fair competition, including at key inflection points as technologies develop. It is especially important that firms not engage in unfair methods of competition or other antitrust violations to squash competition and undermine the potential far-reaching benefits of this transformative technology. "Generative AI" is a category of AI that empowers machines to generate new content rather than simply analyze or manipulate existing data. By using models trained on vast amounts of data, generative AI can generate content that is sometimes indistinguishable from content crafted directly by humans. Many generative AI models are developed using a multi-step process: a pre-training step, a fine-tuning step, and potential customization steps. The pre-training step creates a base model with broad competency in a specific domain, such as language or images. After pre-training, the model is fine-tuned for a specific application. some types of generative AI can be further customized via methods specific to certain types of models, such as prompt engineering. Developing a generative model requires a significant engineering and research workforce with particular—and relatively rare—skillsets. Generative AI systems typically require significant computational resources. The high cost of entry to creating a pre-trained base model may lead to a market where the highest quality pre-trained models are controlled by a small number of incumbents. Incumbents that control key inputs or adjacent markets, including the cloud computing market, may be able to use unfair methods of competition to entrench their current power or use that power to gain control over a new generative AI market. ... As competition issues surrounding generative AI continue to develop, the Bureau of Competition, working closely with the Office of Technology, will use our full range of tools to identify and address unfair methods of competition.
Federal Trade Commission - Jun 29, 2023

Machine-Learning-Based Approach Provides New Insights on the Prevalence of Drizzle in Marine Stratocumulus Clouds

...Detecting drizzle, light precipitation smaller than rain drops, in its early stages in marine stratocumulus clouds is important for studying how water in these clouds becomes rainfall and are important to the Earth's energy balance. Detecting the initial stages of drizzle is challenging for ground-based remote-sensing observations. Thus, researchers developed a machine-learning-based approach using unique radar Doppler spectra observations to identify the early stage of drizzle drops from millimeter-wavelength radars operated by the Department of Energy's Atmospheric Radiation Measurement (ARM) user facility. The results show that the traditional approach significantly underestimates the drizzle occurrence, especially in thin clouds with low liquid water paths...
Department of Energy - Jun 30, 2023

When computer vision works more like a brain, it sees more like people do

...Today's AI technology has artificial neural networks at its core, and most of the time we can trust these AI computer vision systems to see things the way we do — but sometimes they falter. One way to improve computer vision is to instruct the artificial neural networks that they rely on to deliberately mimic the way the brain's biological neural network processes visual images. When MIT researchers trained an artificial neural network using neural activity patterns in the brain's inferior temporal (IT) cortex, the artificial neural network was more robustly able to identify objects in images than a model that lacked that neural training. And the model's interpretations of images more closely matched what humans saw. After training the artificial model with biological data, the team compared its activity to a similarly-sized neural network model trained without neural data, using the standard approach for computer vision. They found that the new, biologically informed model IT layer was — as instructed — a better match for IT neural data. That is, for every image tested, the population of artificial IT neurons in the model responded more similarly to the corresponding population of biological IT neurons. The team also found that the neurally aligned model was more resistant to "adversarial attacks" that developers use to test computer vision and AI systems. ... This work was supported by U.S. Defense Research Projects Agency and the U.S. Office of Naval Research...
MIT News - Jun 30, 2023

NSF-Funded Research Uses A Machine Learning Approach to Freshwater Analysis

...Studies have found that human activity and urbanization are driving salinization of freshwater sources across the country. Along with the rise in salinity has also been an increase in alkalinity over time, but unlike excess salinity, alkalinization can have a positive impact on the environment due to its ability to neutralize water acidity and absorb carbon dioxide in the Earth's atmosphere. A team of researchers from Syracuse University and Texas A&M University have applied a machine learning model to explore where and to what extent human activities are contributing to the hydrogeochemical changes, such as increases in salinity and alkalinity in U.S. rivers. The group used data from 226 river monitoring sites across the U.S. and built two machine-learning models to predict monthly salinity and alkalinity levels at each site. It evaluated 32 watershed factors to pinpoint what contributes to rising salinity and alkalinity. The team's models determined human activities as major contributors to the salinity of U.S. rivers, while rising alkalinity was mainly attributed more to natural processes than human activities. This model specifically revealed population density and impervious surface percentage (artificial surfaces such as roads) as the two most important contributors to higher salt content in U.S. rivers. ... The work was funded through a $460,000 National Science Foundation grant.
Syracuse University News - Jul 6, 2023

Robotics / Autonomous Vehicles

Federal Partner Agencies Boldly Explore Where No One Has Explored Before with ROVs and AUVs
...Improving technology and the combined efforts of partner federal agencies explore the uncharted ocean off the coast of the United States. Over 80% of the global ocean (and 50% of the U.S. Ocean) is still unmapped, with even more unexplored. Despite the obstacles, the uncharted ocean off the coast of the United States is being explored thanks to improving technology and the combined efforts of partner federal agencies. By using human-occupied vehicles (HOVs), remotely operated vehicles (ROVs), and autonomous underwater vehicles (AUVs), scientists can now boldly explore where no one has explored before. HOVs allow explorers to reach a depth of 4,500 meters. To explore deeper depths, explorers rely on ROVs and AUVs. ROVs are tethered to a surface ship with a communication cable and operated by someone in real time from the ship, whereas AUVs are pre-programmed to follow a course on its own without real-time interaction with a human operator. The Deep Sea Exploration and Research of Coral/Canyon/Seep Habitats (Deep SEARCH) project is sponsored by the National Oceanographic Partnership Program, which is a multi-year collaborative between Bureau of Ocean Energy Management (BOEM), the U.S. Geological Survey (USGS), and National Oceanic and Atmospheric Administration (NOAA). The Deep SEARCH research team has found important differences in deep water habitat types and animal species between the Gulf of Mexico and the Atlantic Ocean. Fifty years ago, a company conducted pilot testing of deep-sea mining technology at a Blake Plateau site, which contains polymetallic nodules on the seafloor. Scientists from BOEM, NOAA, and the USGS worked together to use an ROV and AUV to collect high resolution mapping and imagery that provided a very detailed and complete picture of the site, with sufficient detail to determine if signs of disturbance can still be observed many decades after the activities occurred...
BOEM - Bureau of Ocean Energy Management - Jun 30, 2023

Quantum

NSF/DTRA/DARPA-funded scientists edge toward scalable quantum simulations on a photonic chip
...A team of researchers from the University of Rochester developed a new chip-scale optical quantum simulation system - an important step toward developing computers advanced enough to simulate complex natural phenomena at the quantum level. The team ran the simulations in a synthetic space that mimics the physical world by controlling the frequency, or color, of quantum entangled photons as time elapses. This approach differs from the traditional photonics-based computing methods in which the paths of photons are controlled, and also drastically reduces the physical footprint and resource requirements. The project was supported with funding from the National Science Foundation, the Defense Threat Reduction Agency's Joint Science and Technology Office for Chemical and Biological Defense, and the Defense Advanced Research Projects Agency...
University of Rochester School of Nursing - Jun 29, 2023

Cybersecurity / Privacy

Protecting Critical Systems by Designing with Security and Resilience in Mind
...Cyber-informed engineering (CIE) is an approach that allows engineers to design critical infrastructure systems that are hardened against cyberattacks from the start. Using CIE, engineers can create systems that mitigate against worst-case-scenarios even before digital technologies are incorporated. CIE can be applied to any engineering system. CIE expands the workforce for critical energy infrastructure cybersecurity beyond traditional IT professionals to incorporate engineering staff who design and operate the

infrastructure. The Biden-Harris administration's National Cybersecurity Strategy called out CIE as an important security approach to support the nation's clean energy future. As the U.S. moves toward new energy infrastructure, there is an opportunity to build in cybersecurity proactively using CIE. The overall approach will require close collaboration and significant work with its inter-agency partners, including INL, CISA and the National Institute of Standards and Technology...
Department of Energy - Jul 5, 2023

NSA and CISA Best Practices to Secure Cloud Continuous Integration/Continuous Delivery Environments
...Software development and delivery supply chains are attractive targets for malicious cyber actors. They can use these environments to compromise cloud deployments throughout the automated software development and delivery lifecycle. The National Security Agency (NSA) and the Cybersecurity and Infrastructure Security Agency (CISA) are publicly releasing a Cybersecurity Information Sheet (CSI) - "Defending Continuous Integration/Continuous Delivery (CI/CD) Environments" to provide recommendations for integrating security best practices into typical software development and operations (DevOps) CI/CD environments. The agencies encourage organizations to use the best practices to harden their CI/CD cloud deployments...
National Security Agency/Central Security Service - Jun 29, 2023

Treasury Releases Assessment of Small Insurer Competitiveness in the Terrorism Risk Insurance Marketplace
...The U.S. Department of the Treasury's Federal Insurance Office (FIO) has released its 2023 "Study of Small Insurer Competitiveness in the Terrorism Risk Insurance Marketplace." In addition to providing updates on the role of small insurers in the terrorism insurance marketplace, the Report identifies new insights available from FIO's expanded cyber insurance data collection, and shares analysis based upon the use of terrorism risk modeling to evaluate potential impacts small insurers under the Terrorism Risk Insurance Program (TRIP)...
U.S. Department of the Treasury - Jun 30, 2023

New University-Based Cybersecurity Centers Advance Resilience Efforts
...The U.S. Department of Energy's (DOE) Office of Cybersecurity, Energy Security, and Emergency Response (CESER) has announced funding awards to two congressionally directed university-based projects that bolster efforts to strengthen the cybersecurity of the nation's critical energy infrastructure. The University of Arkansas at Little Rock (UALR) received $1 million to support an Emerging Threat Information Sharing and Analysis Center (ET-ISAC). The center will advance cross-sector cybersecurity threat sharing practices and train a new workforce to defend against cyber adversaries. Automation Alley received $2 million to create a Cybersecurity Center at Oakland University in Rochester, MI aimed at reducing the impacts of disruptive cybersecurity attacks and enhancing the security of critical energy infrastructure...
Department of Energy - Jun 29, 2023

Stressed for a Bit? Then Don't Click It, Cybersecurity Experts Advise
...Workers feeling a specific form of stress are more likely than others to become the victims of a phishing attack, according to a study at the Department of Energy's Pacific Northwest National Laboratory. Scientists identified a specific form of stress that indicates who is more vulnerable to clicking on bogus content that could lead to malware and other cyber ills. The work could help workers and their employers increase their cybersecurity defenses by recognizing the warning signs when someone is about to make a risky click. The first step to defend ourselves is understanding the complex constellation of variables that make a person susceptible to phishing. In the study, people who reported a high level of work-related distress were significantly more likely to follow a phony phishing email's link. Every one-point increase in self-reported distress increased the likelihood of responding to the simulated phishing email by 15 percent. Distress might stem from feeling their workload is too high, or they might be questioning whether they have adequate training or time to accomplish their work. ... How can companies and employees use this data to reduce the risk? One option might be human-machine teaming. The work was funded by the Cybersecurity and Infrastructure Security Agency, part of the Department of Homeland Security.
Pacific Northwest National Laboratory (PNNL) - Jul 5, 2023

5G, Wireless Spectrum, Networking & Communications

NASA's New Exhibit Showcases our Home Planet and Climate
...In an interactive new exhibit at the NASA Headquarters in Washington, visitors are invited to see Earth as NASA sees it from space. For six decades, NASA satellites, sensors, and scientists have collected data on Earth's land, water, air, and climate. At the Earth Information Center, the public can glimpse what this data has taught us about sea level rise, air quality, wildfires, greenhouse gases, ice cover, and agriculture. The Earth Information Center is both a physical space and a web-based experience drawing on research conducted by teams at NASA's different centers, at academic institutions, and by industry partners. Once inside the exhibit, visitors find a 22-foot LED hyperwall framed by two circular 4K screens. The hyperwall show tells the story of our planet through videos and visualizations on subjects like air pollution, agriculture, and hurricanes. It also

includes dashboards with real-time data and imagery of our planet. The data visualizations reflect how the study of Earth system science works, combining scientific models, satellite observations, and ground measurements from teams across the agency and across the government. Visitors can also track NASA's Earth science missions in real time by using the exhibit's touchscreen kiosk, which allows visitors to interact with a 3D globe and zoom in to areas of interest. They can view satellite imagery of recent natural events while also monitoring Earth's vital signs such as carbon dioxide concentrations, ozone holes, and sea level...
National Aeronautics and Space Administration - Jun 29, 2023

NSF & NASA-funded study uses 3D satellite data to find forest protection successfully leads to reduced emissions at global scale

...Researchers at the University of Maryland, Northern Arizona University, the University of Arizona and other institutions has found that worldwide protected forests have an additional 9.65 billion metric tons of carbon stored in their aboveground biomass compared to ecologically similar unprotected areas — a finding that quantifies how important protected areas are to continued climate mitigation efforts. The study, which was jointly funded by the U.S. National Science Foundation and NASA, used accurate forest height, structure and surface elevation data produced by NASA's Global Ecosystem Dynamics Investigation. The researchers compared protected areas' efficacy in avoiding emissions to the atmosphere with unprotected areas' ability to do the same and tested the assumption that protected areas provide disproportionately more ecosystem services — including carbon storage and sequestration — than unprotected areas. "We have never had these 3D satellite data sets before, so we have never been able to map forest carbon accurately at this scale," said Laura Duncanson, lead author of the study...
National Science Foundation - Jul 6, 2023

Spacecom General Wants Satellites With Sustained Maneuverability

...In the next four to five years, operations by the Defense Department in the space domain will likely be transformed. Systems that provide communications and many DOD national security systems are probably going to remain positional, such as those used for missile warnings. However, there are emerging sets of platforms that have to overcome this positional approach. The Geosynchronous Space Situational Awareness Program is one example where maneuverability would be desirable. That program consists of satellites operating in the near-geosynchronous orbit to support Spacecom's space surveillance operations. Satellites in a geosynchronous orbit move in an orbit that matches the Earth's rotation. Those satellites could also be used to determine if an adversary's satellite is behaving suspiciously with malicious intent. Operating in a dynamic, more maneuverable manner would allow DOD to achieve surprise and gain the initiative against adversaries in ways not possible today...
U.S. Department of Defense - Jul 6, 2023

Advanced Manufacturing

New Laser-Based Method Could Help Scientists Discover New Puncture-Resistant Materials

...A bullet piercing the protective armor of a first responder, a jellyfish stinging a swimmer, micrometeorites striking a satellite: High-speed projectiles that puncture materials show up in many forms. Researchers constantly aim to identify new materials that can better resist these high-speed puncture events, but it has been hard to connect the microscopic details of a promising new material to its actual behavior in real-world situations. To address this issue, researchers at the National Institute of Standards and Technology (NIST) have designed a method that uses a high-intensity laser to blast microscale projectiles into a small sample at velocities that approach the speed of sound. The system analyzes the energy exchange between the particle and the sample of interest at the micro level then uses scaling methods to predict the puncture resistance of the material against larger energetic projectiles, such as bullets encountered in real-world situations. The researchers first used the method to analyze a nanocomposite material known as polymer-grafted nanoparticle polymethacrylate (npPMA) composite. It consists of silica nanoparticles that could be useful in a wide range of applications including body armor. Their method could help identify new materials for many applications such as additive manufacturing, spacecraft protection...
National Institute of Standards and Technology - Jul 3, 2023

USU's Prateek Sharma Awarded NSF Research Grant to Study Dairy Processing

...With $75,000 research grant funding from the National Science Foundation. a team of researchers is innovating in the dairy industry by focusing on developing strategies to improve the sustainability of dairy processing operations by reducing food processing waste, improving the quality of existing dairy products, and repurposing and upcycling dairy processing byproducts. The team will develop advanced manufacturing technologies, new product prototypes for infants and elderly populations, and understand the physical properties of ingredients as they are processed. The project was one of 16 selected for its potential to develop technologies, tools, and approaches to combat challenges related to population health, climate change, and the nutritional needs of vulnerable and disadvantaged communities. "New technologies could play an important role in ensuring that individuals have access to food and water in the coming decades," said Erwin Gianchandani, NSF assistant director for Technology, Innovation and Partnerships. "We are investing today and have the potential to help the most vulnerable Americans and billions of people worldwide."
USU News - Jun 30, 2023

Microelectronics

NSF announces $6 million investment in semiconductor fabrication

...Through a new partnership, the U.S. National Science Foundation and the National Science and Technology Council of Taiwan (NSTC) have invested $6 million in six joint projects for fundamental research on advanced semiconductor chip design and fabrication. NSF has provided $3.0 million to the U.S. researchers involved. The partnership is guided by the Memorandum of Understanding and Implementing Arrangement for Cooperation in Advanced Semiconductor Chip Design and Fabrication, signed by the American Institute in Taiwan and the Taipei Economic and Cultural Representative Office in the United States...

National Science Foundation - Jun 29, 2023

NSF-funded chemists develop new method to create chiral structures

...Some molecules exist in two forms such that their structures and their mirror images are not superimposable. Chiral molecules tend to be optically active because of how they interact with light. Oftentimes, only one form of a chiral molecule exists in nature, for example, DNA. In trying to produce artificial chirality in the lab, a team led by chemists at the University of California, Riverside, has found that the distribution of a magnetic field is itself chiral. The team's method uses permanent magnets that consistently rotate in space to generate the chirality. Transferring chirality to achiral molecules is done by doping, that is incorporating guest species, such as metals, polymers, semiconductors, and dyes into the magnetic nanoparticles used to induce chirality. Chiral materials acquire an optical effect when they interact with polarized light. In polarized light, light waves vibrate in a single plane, reducing the overall intensity of the light. The findings could have applications in anti-counterfeit technology. A chiral pattern that signifies the authenticity of an object or document would be invisible to the naked eye but visible when seen through polarized lenses. Other applications of the findings are in sensing and the field of optoelectronics. The research was funded by the National Science Foundation...

University of California,Riverside - Jun 29, 2023

Climate Change / Green Energy & IT

Advancing a Circular Economy to Meet Our Climate, Energy, and Economic Goals

...In order to meet our climate goals, we must build an increasingly circular economy—an economy that keeps materials and products in circulation for as long as possible, rather than throwing them away. Both manufacturing new products and discarding used products lead to pollution and greenhouse gas emissions that harm our health and the health of our planet. The Inflation Reduction Act, the CHIPS and Science Act, and the Bipartisan Infrastructure Law build a more circular, clean-energy economy by * recirculating critical materials and products, including electric vehicle batteries and other key clean energy technologies; * creating new American industries and good-paying jobs in battery manufacturing, critical minerals recycling, biomanufacturing, and other growing sectors...

The White House - Jul 5, 2023

NSF-funded researchers use model simulations to advance understanding of anthropogenic effects on climate change

...Anthropogenic aerosols and greenhouse gases have helped modulate the storage and distribution of heat in oceans since the industrial age. Using coupled climate model simulations, a University of California, Riverside-led team quantified the effects of both forcers and found that anthropogenic aerosols and GHGs have played distinct roles in the world's oceans in shaping the pattern of heat uptake, redistribution, and storage. The researchers found aerosol-driven changes in ocean circulation and associated interbasin heat transport are more effective in altering oceanic heat distribution than those driven by globally increasing GHGs. ... The study was funded by the National Science Foundation...

University of California,Riverside - Jun 30, 2023

Professor Receives National Science Foundation Grant to Examine Boreal Forests' Health Using High Performance Computer Models and Other Tools

...Boreal ecosystems, the world's northernmost forests, help regulate the global climate by sequestering carbon in biomass and soils and providing oxygen through photosynthesis. Yet, the health of carbon-rich boreal ecosystems depends on fires that release tree seeds from protective cones and allow forests to regenerate. But as the global climate has rapidly warmed, many boreal forests have become hotter and drier, increasing repeated blazes. Melissa Chipman is a co-investigator of a National Science Foundation-funded project to understand the history of boreal fire over the past 6,000 years and help anticipate climate change consequences in the future. The research team

will undertake fieldwork and spatial analyses, assessing the severity of recent burns on the landscapes and the impacts on vegetation structure and composition, to determine how fire-resilient the landscape is today. The researchers will also use high-performance computer models to estimate how past warming or cooling temperatures and fire frequency have interacted and how they could interact in the future...
Syracuse University News - Jun 29, 2023

Other IT Related

Ray Kammer, Who Led NIST to the Start of the 21st Century, Dies at 76
...Ray Kammer, who as director of the National Institute of Standards and Technology (NIST) led a successful push to modernize the agency's laboratory facilities, died June 18. President Bill Clinton appointed Kammer to be the 11th director of NIST in 1997. Before serving as director, Kammer was deputy director twice, from 1980 to 1991 and again from 1993 to 1997. Kammer served his second stint as NIST deputy director under Arati Prabhakar, now the director of the White House Office of Science and Technology Policy. From 1991 to 1993 he served as chief operating officer at the National Oceanic and Atmospheric Administration, where he led efforts to modernize the agency's weather satellite systems. Kammer moved into the director's office when Prabhakar left NIST in 1997. From there, he led an effort to modernize NIST's research facilities. Most were built in the 1960s and could not meet the technical requirements of 21st century research. Perhaps the most controversial topic that Kammer dealt with during his long government career was a Clinton administration initiative on a new type of encryption technology called the Clipper Chip. This computer chip contained an encryption algorithm and would be built into digital phones so that people could easily protect the privacy of their conversations. It also included a mechanism to allow law enforcement agencies to listen in on those conversations if they had a court warrant to do so — essentially, a wiretap for the digital age. Privacy advocates and many in the technology industry opposed the plan, and it was ultimately abandoned. After retiring from NIST in 2000, Kammer worked as a consultant specializing in standards, ocean policy and scientific research planning...
National Institute of Standards and Technology - Jul 5, 2023

STEM / Workforce & IT

Students soared to new heights at STARBASE Swamp Fox summer camp
...The South Carolina Air National Guard wrapped up another fun-filled STARBASE Swamp Fox summer camp for 23 future innovators from June 20-23, 2023. STARBASE stands for Science and Technology Academies Reinforcing Basic Aviation and Space Exploration. It is a Department of Defense-sponsored program designed to get students interested in science, technology, engineering, and mathematics while they interact with positive role models on military installations. One advantage that Seabrook pointed out is the early exposure camp participants receive in advanced STEM concepts for their age group. "The equipment they are exposed to here at this level, they probably get it in high school," said Stan Seabrook, a STARBASE Swamp Fox instructor. "The 3-D printing, computer-aided design stuff, even some of the robotics stuff." The students are tested before and after STARBASE, allowing the organization to gain insight into how the students learn and the program's effectiveness...
Air Force Link - Jun 30, 2023

Central State joins Thurgood Marshall College Fund and five other HBCUs and for historic partnership
...Central State University, Ohio's only public Historically Black College or University (HBCU) and 1890 Land-Grant Institution, is one of six HBCUs participating in a groundbreaking alliance in education, research, and service, Binghamton University and the Thurgood Marshall College Fund (TMCF) announced. Central State will participate in the innovative partnership with HBCUs Alabama A&M University, Tuskegee University, Prairie-View A&M University, the University of the District of Columbia, and Virginia State University. Binghamton is part of the State University of New York. Arunasalam Rahunanthan, Ph.D., is chair and a professor of mathematics told summit participants that JWGCESTA faculty members are engaged in unique research activities with many federal agencies. The agencies include the Air Force Research Laboratory, the National Aeronautics and Space Administration, the National Science Foundation, the Department of Energy, the Department of Defense, the National Institutes of Health, and the U.S. Department of Agriculture's Agricultural Research Service and National Institute of Food and Agriculture...
Central State University - Jun 29, 2023

Unlocking the Future of Public Health: PVAMU leads Texas students in informatics boot camp
...Prairie View A&M University students are learning, alongside other students from institutions across Texas, how to make public health information technology more fair, inclusive and equitable. The ultimate goal of public health information technology, also known as public health informatics, is to use information, computer science and technology to promote the health of the overall population and prevent diseases and injuries. The Gaining Equity in Training for Public Health Informatics and Technology (GET PHIT) Consortium, part of a national initiative to expand diversity in the increasingly important field of public health information technology, launched in 2021 with a $10 million

award from the U.S. Department of Health and Human Services. n May, 33 students participated in PVAMU's first summer boot camp on public health informatics, one of three in-person summer boot camps planned across the consortium...
Prairie View A&M University - Jul 6, 2023

STEM / Workforce Resources & Opportunities

Updated SOSx mobile app is classroom-ready with new features
...The Science On a Sphere (SOS) team released an update for the SOS Explorer™ (SOSx) mobile app, that was designed by the NOAA Science On a Sphere team to provide engaging visualizations of Earth, ocean, atmosphere, land, and space data. The app also includes a new auto-rotate feature that spins the globe, a toggle for displaying the legend, and a better representation of real-time satellite positions. This dataset allows you to view paths and positions of dozens of satellites in current time and visualize where they will go in the next 16 hours. Tracking satellite positions in real-time and forecasting their future positions has numerous implications for astronomy, earth science, meteorology, and communication industries. The Phytoplankton Model is a beautiful representation of the seasonal variability in our ocean and it can be found in the SOSx exhibit and in the mobile app. The Tsunami: Asteroid Impact dataset shows the ripple of the megatsunami that was triggered by the asteroid that hit Earth 66 million years ago...
National Oceanic and Atmospheric Administration - Jun 29, 2023

R&D WORKFORCE TRAINING: FEDERAL AGENCIES' STEM INTERNSHIPS, SCHOLARSHIPS, AND TRAINING OPPORTUNITIES
...Increasing the availability of STEM opportunities is a priority in the Biden Harris Administration. To help facilitate this, the team at NITRD developed a STEM Portal that allows anyone to search for internships and other training opportunities at Federal agencies. The NITRD STEM PORTAL is a searchable database that includes a description, link, and contact information for each program listing. Government sponsored internships and training programs are competitive, but there are many Federal opportunities and the NITRD STEM Portal is here to help..
The Networking and Information Technology Research and Development (NITRD) Program - Jun 21, 2023

FEDERAL HIGH END COMPUTING INFORMATION PORTAL
...Networking and Information Technology Research and Development (NITRD) has a portal that provides information about U.S. Federal government high performance computing activities, including available computing resources; HEC relevant publications; fellowship and training opportunities; and technology transfer, licensing, and industry engagement opportunities. The HEC IWG (Interagency Working Group on High End Computing) agencies provide the information contained in this portal. HEC IWG agencies are involved in various Federal activities in the HEC area including R&D and providing infrastructure and application. Take a look at it!
Networking and Information Technology Research and Development - Jun 14, 2023

AI Researchers Portal
...Our Nation's AI innovation begins with the inspirational ideas of researchers from all across the country. To make it easier for researchers to locate and explore the many Federal resources and funding programs available to support and investigate novel ideas in AI, the National AI Initiative Office, in partnership with Federal departments and agencies and the Networking and Information Technology Research and Development coordination office, established an AI Researchers Portal. This portal connects AI researchers to Federal resources that can support their research, including data, computing, and testbeds, as well as AI-relevant grant funding programs. It also provides searchable repositories of approximately 140 current Federal grant programs relevant to AI, and around 40 Federally-funded testbed resources, in addition to a wide variety of data and computing resources useful for AI research...
National Artificial Intelligence Initiative - Jul 6, 2023

Note: Any mention in the text of commercial, non-profit, academic partners, or their products, or references is for information only; it does not imply endorsement or recommendation by any U.S. Government agency.