DOWNLOAD PDF COMPUTER VISION AND INFORMATION TECHNOLOGY

Chapter 1 : Technology Mission Statements â€“ â€" Mission Statements â€"

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Chapter 2 : Latest Trends in Computer Vision Technology and Applications

Papers presented at the International Conference on Advances in Computer Vision and Information Technology, held at Aurangabad during November

Solid-state Physics[edit] Solid-state physics is another field that is closely related to computer vision. Most computer vision systems rely on image sensors , which detect electromagnetic radiation , which is typically in the form of either visible or infra-red light. The sensors are designed using quantum physics. The process by which light interacts with surfaces is explained using physics. Physics explains the behavior of optics which are a core part of most imaging systems. Sophisticated image sensors even require quantum mechanics to provide a complete understanding of the image formation process. Neurobiology[edit] A third field which plays an important role is neurobiology , specifically the study of the biological vision system. Over the last century, there has been an extensive study of eyes, neurons, and the brain structures devoted to processing of visual stimuli in both humans and various animals. This has led to a coarse, yet complicated, description of how "real" vision systems operate in order to solve certain vision related tasks. These results have led to a subfield within computer vision where artificial systems are designed to mimic the processing and behavior of biological systems, at different levels of complexity. Also, some of the learning-based methods developed within computer vision e. Some strands of computer vision research are closely related to the study of biological vision â€" indeed, just as many strands of AI research are closely tied with research into human consciousness, and the use of stored knowledge to interpret, integrate and utilize visual information. The field of biological vision studies and models the physiological processes behind visual perception in humans and other animals. Computer vision, on the other hand, studies and describes the processes implemented in software and hardware behind artificial vision systems. Interdisciplinary exchange between biological and computer vision has proven fruitful for both fields. Many methods for processing of one-variable signals, typically temporal signals, can be extended in a natural way to processing of two-variable signals or multi-variable signals in computer vision. However, because of the specific nature of images there are many methods developed within computer vision which have no counterpart in processing of one-variable signals. Together with the multi-dimensionality of the signal, this defines a subfield in signal processing as a part of computer vision. Other fields[edit] Beside the above-mentioned views on computer vision, many of the related research topics can also be studied from a purely mathematical point of view. For example, many methods in computer vision are based on statistics , optimization or geometry. Finally, a significant part of the field is devoted to the implementation aspect of computer vision; how existing methods can be realized in various combinations of software and hardware, or how these methods can be modified in order to gain processing speed without losing too much performance. Distinctions[edit] The fields most closely related to computer vision are image processing , image analysis and machine vision. There is a significant overlap in the range of techniques and applications that these cover. This implies that the basic techniques that are used and developed in these fields are similar, something which can be interpreted as there is only one field with different names. On the other hand, it appears to be necessary for research groups, scientific journals, conferences and companies to present or market themselves as belonging specifically to one of these fields and, hence, various characterizations which distinguish each of the fields from the others have been presented. Computer graphics produces image data from 3D models, computer vision often produces 3D models from image data [20]. There is also a trend towards a combination of the two disciplines, e. The following characterizations appear relevant but should not be taken as universally accepted: Image processing and image analysis tend to focus on 2D images, how to transform one image to another, e. Computer vision includes 3D analysis from 2D images. This analyzes the 3D scene projected onto one or several images, e. Computer vision often relies on more or less complex assumptions about the scene depicted in an image. This implies that image sensor technologies and control theory often are integrated with the processing of image data to control a robot and that real-time processing is emphasised by means of efficient implementations in hardware and software. It also implies that the external conditions such as lighting can be and are often more controlled in machine vision than they are in general computer vision, which can enable the use of different algorithms. There is also a field called imaging which primarily focus on the process of producing images, but sometimes also deals with processing and analysis of images. For example, medical imaging includes substantial work on the analysis of image data in medical applications. Finally, pattern recognition is a field which uses various methods to extract information from signals in general, mainly based on statistical approaches and artificial neural networks. A significant part of this field is devoted to applying these methods to image data. Applications[edit] Applications range from tasks such as industrial machine vision systems which, say, inspect bottles speeding by on a production line, to research into artificial intelligence and computers or robots that can comprehend the world around them. The computer vision and machine vision fields have significant overlap. Computer vision covers the core technology of automated image analysis which is used in many fields. Machine vision usually refers to a process of combining automated image analysis with other methods and technologies to provide automated inspection and robot guidance in industrial applications. In many computer vision applications, the computers are pre-programmed to solve a particular task, but methods based on learning are now becoming increasingly common. Examples of applications of computer vision include systems for: Learning 3D shapes has been a challenging task in computer vision. Recent advances in deep learning has enabled researchers to build models that are able to generate and reconstruct 3D shapes from single or multi-view depth maps or silhouettes seamlessly and efficiently [20] Automatic inspection, e. An example of this is detection of tumours , arteriosclerosis or other malign changes; measurements of organ dimensions, blood flow, etc. It also supports medical research by providing new information: Applications of computer vision in the medical area also includes enhancement of images interpreted by humansâ€”ultrasonic images or X-ray images for exampleâ€”to reduce the influence of noise. A second application area in computer vision is in industry, sometimes called machine vision , where information is extracted for the purpose of supporting a manufacturing process. One example is quality control where details or final products are being automatically inspected in order to find defects. Another example is measurement of position and orientation of details to be picked up by a robot arm. Machine vision is also heavily used in agricultural process to remove undesirable food stuff from bulk material, a process called optical sorting. The obvious examples are detection of enemy soldiers or vehicles and missile guidance. More advanced systems for missile guidance send the missile to an area rather than a specific target, and target selection is made when the missile reaches the area based on locally acquired image data. Modern military concepts, such as "battlefield awareness", imply that various sensors, including image sensors, provide a rich set of information about a combat scene which can be used to support strategic decisions. In this case, automatic processing of the data is used to reduce complexity and to fuse information from multiple sensors to increase reliability. Notice the stereo cameras mounted on top of the rover. One of the newer application areas is autonomous vehicles, which include submersibles , land-based vehicles small robots with wheels, cars or trucks , aerial vehicles, and unmanned aerial vehicles UAV. The level of autonomy ranges from fully autonomous unmanned vehicles to vehicles where computer vision based systems support a driver or a pilot in various situations. Fully autonomous vehicles typically use computer vision for navigation, i. It can also be used for detecting certain task specific events, e. Examples of supporting systems are obstacle warning systems in cars, and systems for autonomous landing of aircraft. Several car manufacturers have demonstrated systems for autonomous driving of cars , but this technology has still not reached a level where it can be put on the market. There are ample examples of military autonomous vehicles ranging from advanced missiles, to UAVs for recon missions or missile guidance. Space exploration is already being made with autonomous vehicles using computer vision, e. Other application areas include:

Chapter 3 : Microsoft Research â€“ Emerging Technology, Computer, and Software Research

*Advances in Computer Vision and Information Technology [K V Kale] on blog.quintoapp.com *FREE* shipping on qualifying offers. The latest trends in Information Technology represent a new intellectual paradigm for scientific exploration and visualization of scientific phenomena.*

Examples and suggestions by Kendra Morgan Last Modified: The technology vision statement is a compelling, succinct statement that has been created with input and approval from all members of your technology team. The statement should reflect the interests of your various stakeholders and paint the picture of how your library will function with the mission-driven use of technology. Think of the vision statement as the best case scenario for technology in the library - where the library wants to be. How to craft a vision Your whole technology team should be around the table to work on your vision statement. A good reason for that is to help create organizational buy-in for the vision and to create some excitement around what the library is doing. Expect to spend time brainstorming and drafting the statement and consider factors such as how technology will impact your operations internally as well as externally. To help you get started, think over these questions: What are the opportunities for growth? If resources and training were not an issue, what would be different? What would technology and training resources do for the staff? What would technology do for the patrons? You may find it easier and a bit faster to do this brainstorming as a large group, then have a few people take the results of the brainstorm and work on possible statements. The smaller group would then bring suggestions back to the bigger group for consideration. The statement might begin with the phrase "We believeâ€¦" or "We are committed toâ€¦" What to do after the statement is finished Be proud of it! Share the statement with the staff and talk about the future. Sample Vision Statements Here are few examples to help you see what other libraries have done. Please avoid the lure of just copying and pasting - the vision statement should be about your library. The process of developing a vision statement will inform the rest of your technology plan and should be custom-made for your library. Patrons of North Smithfield Public Library will have electronic access to a collection of relevant materials to answer questions relating to school, work, and personal life and will receive assistance from knowledgeable staff in locating and using these resources. Our library will provide life-long learning opportunities through exemplary collections, technological information resources, and opportunities to gather, discuss, learn and enjoy. Ellsworth Public Library IA The people of Ellsworth and the surrounding community will have convenient access to electronic information resources through proven technology and telecommunications. In the virtual and physical libraries, our role will be to provide value-added products and services which guide and direct customers to excellent sources of electronic information. Patrons will be assisted as needed by a sufficient number of knowledgeable, trained staff who can help them make the best use of both new and traditional information resources. Staff will be supported by up-to-date technology to ensure quality services that are efficient and cost-effective. Dakota County Library The people of Dakota County, in and through their Dakota County Library, will have convenient access to library resources through proven technology and telecommunications. In the virtual and physical libraries, our role will be to provide value-added products and services that guide and direct customers to information and resources. Customers will be assisted as needed by a sufficient number of knowledgeable, trained staff who can help them make the best use of both new and traditional information resources. Staff will be supported by up-to-date technology that ensures provision of quality services that are efficient and cost-effective. To support this vision we draw on these values: We value acquiring and using technology to support the missions of the Library and the County. We value the principles of intellectual freedom guiding the Library in developing access to electronic resources, with customers responsible for what they choose to use. We value electronic resources extending library services, complementing other materials and services provided by the Library, and where appropriate, substituting for equivalent resources in other formats. We value promoting electronic resources and complementary resources in other formats to all residents of Dakota County, both current and potential customers. We value staff interaction with customers, instructing them as necessary, assisting them in locating, using and evaluating information, whether a customer is on library premises or accessing library services from a remote location. We value the ongoing offering of new and emerging resources delivered via new technologies. We value the continuing education and training of Library staff in the use of electronic resources and new technologies. What will your Technology Vision Statement look like? This article was original published in and has been updated.

Chapter 4 : Computer vision - Wikipedia

Salient Features: A compilation of articles, the book covers 20 important areas of computers and information technology. This book has been edited under the aegis of the IEEE, with the articles duly peer-reviewed and vetted by experts.

Computer vision software is changing industries and making the lives of consumers not only easier but also more interesting. As a field, computer vision has received a lot of publicity and a decent amount of investment. Advances in deep learning Deep learning gained its popularity due to its supremacy in delivering accurate results. Traditional machine learning algorithms, as complex as they may be, are still very simple at their core. Deep learning algorithms, on the other hand, learn about the task at hand through a network of neurons that map the task as a hierarchy of concepts. Each complex concept is defined by a series of simpler concepts. And all of this the algorithms can do by themselves. In the context of computer vision, this means identifying light and dark areas first, then categorizing lines, then shapes before moving towards a full picture recognition. Deep learning algorithms also perform better when you give them more data, which is not typical of machine learning algorithms. Source For computer vision, this has been fantastic news. Not only has it allowed for many more pictures and videos to be used in training of deep learning algorithms, but it has also relieved a lot of work connected to annotating and labeling the data. The retail industry has been a pioneer in implementing computer vision software. ASOS added a search-by-photo option to their app in , and many retailers followed after. Some have even taken it a step further and used computer vision software to bring the online and offline experience closer together. The employees at the store are thus able to personalize the shopping experience by making personalized product recommendations and occasional loyalty discounts. The special treatment instills brand loyalty and converts occasional shoppers into regular ones. Both of which are good for business. However, connection to the internet and the cloud is not always a guarantee. That is where edge computing comes in. Edge computing refers to technology attached to physical machines, such as a gas turbine, a jet engine, or an MRI scanner. It allows for the data to be processed and analyzed where it is collected, as opposed to it being done in the cloud or at a data center. It simply allows machines to act alone on new data insights when needed. In other words, machines on the edge can learn and adjust based on their own experience, independent of the larger network. Edge computing solves the problem of network accessibility and latency. Now devices can be placed in areas where a network connection is bad or nonexistent without it reflecting on the results of the analysis. Furthermore, edge computing can offset some of the costs of usage and maintenance of cloud computing for data sharing. For computer vision software, this means a possibility to respond even better in real time, and only move relevant insights to the cloud for further analysis. This feature is especially useful for autonomous cars. In order to operate safely, the vehicles will need to gather and analyze vast amounts of data pertaining to their surroundings, directions, and weather conditions, not to mention communicating with other vehicles on the road, all without latency. Replying on a cloud solution to analyze the data can be dangerous as latency can lead to accidents. Object recognition with point cloud A technology that has been used more frequently lately in object recognition and object tracking is point cloud. Simply put, a point cloud is a collection of data points defined within a three-dimensional coordinate system. This technology is typically used within a space for example a room or a container where the location and shape of each object are represented by a list of coordinates X, Y, and Z. This technology provides an accurate representation of where an object is in the space, and any movement can be accurately tracked. Applications of the point cloud are endless. Here are just some examples of industries and the benefits they reap from this technology: Most AR devices can perform simple scans of the environment Google ARCore can, for example, detect flat surfaces and changes in light conditions , and VR systems can detect the movements of the user through head tracking, controllers, etc. With the help of external cameras and sensors that map the environment, as well as eye-tracking solutions and gyroscopes to position the user, the VR and AR systems are able to: Perceive the environment and guide the user away from obstacles such as walls, items or other users. Detect eye and body movement of the user and adopt the VR environment accordingly. Provide guidance and directions in indoor environments, public spaces, underground and more. Each shopper can borrow an AR device on which they can make their shopping list and get directions to each item in the store. The AR device uses floor plans, stock information and mapping of the environment in real-time to give accurate directions. Sephora has updated their Virtual Artist app with a live 3D facial recognition that allows customers to see how different makeup products look on their faces and in different light conditions. Instance segmentation identifies object outlines at the pixel level, while semantic segmentation simply groups pixels to a specific object group. There is a balloon in this image. These are all the balloon pixels. There are 7 balloons in this image at these locations. There are 7 balloons at these locations, and these are the pixels that belong to each one. If put together, semantic and instance segmentation methods become a powerful tool. Not only can this tool detect all pixels belonging to objects in the picture, but it can also determine what pixels belong to which object and where in the picture the objects are located. Semantic instance segmentation is a useful tool for land cover classification, which has various applications. Land mapping via satellite imagery can be useful for governmental institutions to monitor deforestation especially illegal , urbanization, traffic, and more. Many architect firms are also using such data for city planning and building development. Some are even taking it a step further and combining it with AR equipment to get a sense of how their designs will look like in real life. Valeryia Shchutskaya is the Marketing Manager at InData Labs - a professional services firm delivering AI-powered software and technical solutions to companies who want to leverage data and machine learning algorithms for business value.

Chapter 5 : Sample Technology Plan Vision Statements

The science and technology of systems that see and understandâ€”computer visionâ€”offers solutions to data acquisition and exploitation challenges in defense, security, robotics, training, and the medical marketplace.

Head-up display A head-up display HUD is a transparent display that presents data without requiring users to look away from their usual viewpoints. A precursor technology to augmented reality, heads-up displays were first developed for pilots in the s, projecting simple flight data into their line of sight, thereby enabling them to keep their "heads up" and not look down at the instruments. Near-eye augmented reality devices can be used as portable head-up displays as they can show data, information, and images while the user views the real world. Many definitions of augmented reality only define it as overlaying the information. Due to encumbered control, smartglasses are primarily designed for micro-interaction like reading a text message but still far from more well-rounded applications of augmented reality. These bionic contact lenses might contain the elements for display embedded into the lens including integrated circuitry, LEDs and an antenna for wireless communication. The first contact lens display was reported in , [46] then 11 years later in The company Samsung has been working on a contact lens as well. This lens, when finished, is meant to have a built-in camera on the lens itself. It is also intended to be linked with your smartphone to review footage, and control it separately. When successful, the lens would feature a camera, or sensor inside of it. It is said that it could be anything from a light sensor, to a temperature sensor. In Augmented Reality, the distinction is made between two distinct modes of tracking, known as marker and markerless. Marker are visual cues which trigger the display of the virtual information. The camera recognizes the geometries by identifying specific points in the drawing. Markerless also called instant tracking does not use marker. Instead the user positions the object in the camera view preferably in an horizontal plane. It uses sensors in mobile devices to accurately detect the real-world environment, such as the locations of walls and points of intersection. This results in bright images with high resolution and high contrast. The viewer sees what appears to be a conventional display floating in space. In the macular degeneration group, 5 out of 8 subjects preferred the VRD images to the CRT or paper images and thought they were better and brighter and were able to see equal or better resolution levels. The Kerocunus patients could all resolve smaller lines in several line tests using the VDR as opposed to their own correction. They also found the VDR images to be easier to view and sharper. As a result of these several tests, virtual retinal display is considered safe technology. Virtual retinal display creates images that can be seen in ambient daylight and ambient roomlight. The VRD is considered a preferred candidate to use in a surgical display due to its combination of high resolution and high contrast and brightness. Additional tests show high potential for VRD to be used as a display technology for patients that have low vision. EyeTap[edit] The EyeTap also known as Generation-2 Glass [61] captures rays of light that would otherwise pass through the center of the lens of the eye of the wearer, and substitutes synthetic computer-controlled light for each ray of real light. All handheld AR solutions to date opt for video see-through. Initially handheld AR employed fiducial markers , [63] and later GPS units and MEMS sensors such as digital compasses and six degrees of freedom accelerometer â€” gyroscope. Handheld display AR promises to be the first commercial success for AR technologies. The two main advantages of handheld AR are the portable nature of handheld devices and the ubiquitous nature of camera phones. The disadvantages are the physical constraints of the user having to hold the handheld device out in front of them at all times, as well as the distorting effect of classically wide-angled mobile phone cameras when compared to the real world as viewed through the eye. SAR makes use of digital projectors to display graphical information onto physical objects. The key difference in SAR is that the display is separated from the users of the system. Because the displays are not associated with each user, SAR scales naturally up to groups of users, thus allowing for collocated collaboration between users. Examples include shader lamps , mobile projectors, virtual tables, and smart projectors. Other applications include table and wall projections. One innovation, the Extended Virtual Table, separates the virtual from the real by including beam-splitter mirrors attached to the ceiling at an adjustable angle. Many more implementations and configurations make spatial augmented reality display an increasingly attractive interactive alternative. An SAR system can display on any number of surfaces of an indoor setting at once. SAR supports both a graphical visualization and passive haptic sensation for the end users. Users are able to touch physical objects in a process that provides passive haptic sensation. These technologies offer varying levels of accuracy and precision. However, they often rely on computationally intensive computer vision algorithms with extreme latency requirements. To compensate for the lack of computing power, offloading data processing to a distant machine is often desired. Computation offloading introduces new constraints in applications, especially in terms of latency and bandwidth. Although there are a plethora of real-time multimedia transport protocols, there is a need for support from network infrastructure as well. Computer[edit] The computer analyzes the sensed visual and other data to synthesize and position augmentations. Computers are responsible for the graphics that go with augmented reality. Augmented reality uses a computer-generated image and it has an striking effect on the way the real world is shown. With the improvement of technology and computers, augmented reality is going to have a drastic change on our perspective of the real world. The more that computers progress, augmented reality will become more flexible and more common in our society. Computers are the core of augmented reality. This translates to an input to the computer which then outputs to the users by adding something that would otherwise not be there. The computer comprises memory and a processor. The fixed marks on an objects surface are stored in the memory of a computer. The computer also withdrawals from its memory to present images realistically to the onlooker. The software must derive real world coordinates, independent from the camera, from camera images. That process is called image registration , and uses different methods of computer vision , mostly related to video tracking. Usually those methods consist of two parts. The first stage is to detect interest points , fiducial markers or optical flow in the camera images. This step can use feature detection methods like corner detection , blob detection , edge detection or thresholding , and other image processing methods. Some methods assume objects with known geometry or fiducial markers are present in the scene. In some of those cases the scene 3D structure should be precalculated beforehand. If part of the scene is unknown simultaneous localization and mapping SLAM can map relative positions. If no information about scene geometry is available, structure from motion methods like bundle adjustment are used. Mathematical methods used in the second stage include projective epipolar geometry, geometric algebra , rotation representation with exponential map , kalman and particle filters, nonlinear optimization , robust statistics. To enable rapid development of augmented reality applications, some software development kits SDKs have emerged. Since AR system rely heavily on the immersion of the user and the interaction between the user and the system, design can facilitate the adoption of virtuality. For most Augmented Reality systems, a similar design guideline can be followed. The following lists some considerations for designing Augmented Reality applications: Designers should be aware of the possible physical scenarios the end-user may be in such as: Public, in which the users uses their whole body to interact with the software Personal, in which the user uses a smartphone in a public space Intimate, in which the user is sitting with a desktop and is not really in movement Private, in which the user has on a wearable. UX designers will have to define user journeys for the relevant physical scenarios and define how the interface will react to each. Especially in AR systems, it is vital to also consider the spatial space and the surrounding elements that change the effectiveness of the AR technology. Environmental elements such as lighting, and sound can prevent the sensor of AR devices from detecting necessary data and ruin the immersion of the end-user. For example, applications that is used for driving should reduce the amount of user interaction and user audio cues instead. The purpose of Interaction Design is to avoid alienating or confusing the user by organising the information presented. In other applications that require users to understand the focus and intent, designers can employ a reticle or raycast from the device. This means that a user can potentially access multiple copies of 2D interfaces within a single AR application. Visual design[edit] In general, visual design is the appearance of the developing application that engages the user. To improve the graphic interface elements and user interaction, developers may use visual cues to inform user what elements of UI are designed to interact with and how to interact with them. Since navigating in AR application may appear difficult and seem frustrating, visual cues design can make interactions seem more natural. To solve this issue, designers should apply visual cues to assist and encourage users to explore their surroundings. It is important to note the two main objects in AR when developing VR applications: Another visual design that can be applied is using different lighting techniques or casting shadows to improve overall depth judgment. Please help improve it by rewriting it in an encyclopedic style. June Learn how and when to remove this template message Augmented reality has been explored for many applications, from gaming and entertainment to medicine, education and business. Example application areas described below include Archaeology, Architecture, Commerce and Education. Some of the earliest cited examples include Augmented Reality used to support surgery by providing virtual overlays to guide medical practitioners to AR content for astronomy and welding. By augmenting archaeological features onto the modern landscape, AR allows archaeologists to formulate possible site configurations from extant structures. Each user can collaborate by mutually "navigating, searching, and viewing data. Collaborative AR systems supply multimodal interactions that combine the real world with virtual images of both environments. Computer-generated images of a structure can be superimposed into a real life local view of a property before the physical building is constructed there; this was demonstrated publicly by Trimble Navigation in Following the Christchurch earthquake , the University of Canterbury released CityViewAR, [] which enabled city planners and engineers to visualize buildings that had been destroyed. Visual art[edit] AR applied in the visual arts allows objects or places to trigger artistic multidimensional experiences and interpretations of reality. Augmented Reality can aid in the progression of visual art in museums by allowing museum visitors to view artwork in galleries in a multidimensional way through their phone screens. The Museum of Modern Art in New York has created an exhibit in their art museum showcasing Augmented Reality features that viewers can see using an app on their smartphone.

Chapter 6 : Computer Hardware/Equipment Mission Statements â€“ â€” Mission Statements â€”

Computer vision is an interdisciplinary field that deals with how computers can be made to gain high-level understanding from digital images or blog.quintoapp.com the perspective of engineering, it seeks to automate tasks that the human visual system can do.

Sample Educational Technology Plan Vision Statements The following vision statements come from actual school and district technology plans created by Sun Associates clients. These statements are intended to show the range of topics and approaches that can be taken with this key section of any educational technology plan. Please note that these statements are presented only for your information and are the property of their respective schools. As described in the overall mission of the Mansfield Public Schools, the purpose of education is to prepare students to be productive and caring adults. Within this context, we believe that technology is a tool for learning that expands our instructional repertoire and is the vehicle that maximizes the capacity of all teachers and learners. It is the vision of Mansfield Public Schools that students be engaged in a stimulating academic environment and a challenging curriculum that is student-centered and focused on inquiry-based learning. Specifically, we envision that technology is available and effectively supported for all students and staff: Rosemary Middle School Our Vision for Technology Integration Students, parents, and educators will use communication and information technologies to enhance and expand the traditional role of education in the Andrews community. We believe the basic goal of education has not changed, that is to prepare our students for life-long learning and success in a change society. However , the tools and instructional methods to achieve these goals have advanced dramatically. Technologies such as computers, networks, and wide area communications offer tremendous opportunities to students and educators as a way to improve life within our community and a link to a world outside of Andrews. Rosemary Middle School has the responsibility for developing curriculum and applying instructional methods enriched with technology and in ensuring that our students and teachers are proficient users of these new technologies. This technology integration plan will outline our strategies for turning this vision into reality. Lincoln High School Vision for Educational Technology Technology offers students an avenue to succeed as citizens in a global society in which information is growing at an incredible rate. Technology can improve communication, enhance thinking skills, make instruction more efficient and effective, and develop life skills critical to success. Lincoln High School will incorporate technology as a means of integrating curriculum across subject areas. Students and educators will be guaranteed opportunities to use technology as an integral part of education. Students are engaged in a challenging curriculum that is focused on inquiry-based, hands-on learning. Students are comfortable using technology. Students take responsibility for their own educational success. Teachers use technology to support all learning across the curriculum. They function as coaches, mentors, advocates, and managers of information. The schools become an environment where all students and staff have ready access to a full range of current technology, software tools, and applications. The schools have knowledgeable staff and external resources such as parents, community members, business, higher education, and network resources to further the curriculum goals. Whiteville City Schools Vision The vision of Whiteville City Schools is to provide all students with access to state-of-the-art information technology which will assist them in: In the 21st century, understanding and using technology will be an integral part of virtually every aspect of daily life. The classroom is the primary place where this preparation will occur; therefore, every classroom must be equipped with diverse technologies to support teaching and learning. Every teacher must be knowledgeable and skilled in the use of these technologies in daily instruction. When integrated into instruction, technology will support new strategies for teaching and learning by:

Chapter 7 : CMVIT | Guangzhou, China

Vision Statement. The Department of Computer and Information Technology will be nationally recognized as a benchmark institution for educating professionals, practitioners, and future leaders of existing and emerging information *technologies, and advancing economic development through engagement and discovery partnerships with business, industry, and government.*

Chapter 8 : Computer Vision Syndrome and Digital Eye Strain

Compelling vision, mission and value statements are an anchor for the enterprise and for IT. They help create a powerful picture of the future by increasing clarity of purpose, organizational.

Chapter 9 : Mission, Vision, and Values - Purdue Polytechnic Institute

The University of Kansas prohibits discrimination on the basis of race, color, ethnicity, religion, sex, national origin, age, ancestry, disability, status as a veteran, sexual orientation, marital status, parental status, gender identity, gender expression, and genetic information in the university's programs and activities.