

Research Topics

Information Technology Department

المجالات البحثية المستهدفة في قسم تكنولوجيا المعلومات

يستهدف قسم تكنولوجيا المعلومات بكلية الحاسبات والمعلومات جامعة المنصورة من خلال الأبحاث التطبيقية التي يشرف عليها، أن يقدم إسهامات جديدة في المجالات البحثية الآتية:

1. Image and Video Processing

Image and Video Processing addresses the problems of acquisition, storage, retrieval, and processing of images, videos, and high dimensional signals for extraction and analysis of useful information for human users, robots, and autonomous systems.

1. Image/Video coding and transmission

- Still image and video coding.
- Stereoscopic and 3D coding.
- Distributed source coding.
- Source/channel coding.
- Image/video transmission over wireless networks.

2. Image/video processing

- Image and video filtering.
- Restoration and enhancement.
- Image segmentation.
- Video segmentation and tracking.
- Morphological processing.
- Stereoscopic and 3D processing.
- Feature extraction and analysis.
- Interpolation and super-resolution.
- Motion detection and estimation.
- Color and multispectral processing.
- Image visualization.
- Image registration.
- Image fusion.

3. Semantic Image and Video retrieval

- Content-based indexing, search, and retrieval of images & videos
- Semantic-based indexing, search, and retrieval of images & videos

- Affect-based indexing, search, and retrieval of images & videos
- Advanced descriptors and similarity metrics for images, audio and video
- Learning and relevance feedback in image/video retrieval
- 3D images and models
- Ontologies for annotation and search of images and videos
- Fusion of multimedia
- Image/video summarization and visualization
- Multimodal human computer interaction
- Evaluation of image and video retrieval systems
- Studies of information-seeking behavior among image/video users
- Query models, paradigms, and languages for image/video retrieval
- Database architectures for image/video retrieval
- Novel image data management systems and applications
- High performance image/video indexing algorithms
- Image/video search and browsing on the Web
- Retrieval from multimodal lifelogs
- Applications in broadcast, web, cultural heritage, satellite, forensic, and (bio-)medical image and video collections.

4. Image formation

- Biomedical imaging.
- Remote sensing.
- Geophysical and seismic imaging.
- Optimal imaging.
- Synthetic-natural hybrid image systems.

5. Image scanning, display, and printing

- Scanning and sampling.
- Quantization and halftoning.
- Color reproduction.
- Image representation and rendering.
- Display and printing systems.
- Image quality assessment.

6. Image/video storage, Retrieval, and authentication

- Image and video databases.
- Image and video search and retrieval.
- Multimodality image/video indexing and retrieval.
- Authentication and watermarking.

7. 3D images and models

- 3D imaging
- Advanced descriptors and similarity metrics for images, audio and video
- Affect-based indexing, search, and retrieval of images & videos

- Applications in broadcast, web, cultural heritage, satellite, forensic, and (bio-)medical image and video collections
- Case studies and emerging technologies
- Classification and clustering techniques
- Color and texture
- Compression methods
- Computational geometry
- Computer animation
- Computer art and entertainment (including games)
- Content-based indexing, search, and retrieval of images & videos
- Curves and meshes
- Database architectures for image/video retrieval
- e-Learning applications and computer graphics
- Emerging display technologies
- Evaluation of image and video retrieval systems
- Face recognition, face detection, and gesture recognition
- Fractal geometry and applications
- Fusion of multimedia
- Graph theory in image processing and vision
- Modeling techniques
- Multimedia Systems and Applications
- Multimodal display systems
- Multimodal human computer interaction
- Novel image data management systems and applications
- Object recognition
- Ontologies for annotation and search of images and videos
- Query models, paradigms, and languages for image/video retrieval
- Real-time collision detection algorithms
- Real-time rendering for VR
- Rendering methods
- Retrieval from multimodal lifelogs
- Semantic-based indexing, search, and retrieval of images & videos
- Shadows, translucency and visibility
- Signal and speech processing
- Graphics algorithms and applications
- Haptic devices and techniques
- High performance image/video indexing algorithms
- Human-computer interfaces
- Illumination and reflection techniques
- Image compression, coding, and encryption
- Image data structures for computer graphics
- Image feature extraction

- Image generation, acquisition, and processing
- Image geometry and multi-view geometry
- Image/video search and browsing on the Web
- Image/video summarization and visualization
- Image-based modeling and algorithms
- Immersive virtual reality
- Integration of virtual reality and multimedia
- Interactive digital media
- Interactive techniques
- Knowledge-based recognition
- Learning and assessment based on virtual reality approaches
- Learning and relevance feedback in image/video retrieval
- Machine learning technologies for vision
- Machine architectures/engines for graphics and VR
- Modeling of natural scenes and phenomena
- Simulation and virtual reality
- Software tools for computer graphics
- Software tools for virtual reality
- Sound rendering technologies
- Studies of information-seeking behavior among image/video users
- Surface modeling
- Virtual and augmented reality
- Virtual environments
- Virtual humans and artificial life
- Virtual laboratories
- Virtual reality and emerging applications
- Virtual reality software tools and languages
- Virtual reality techniques for behavioral and cognitive assessment
- Virtual reality, visualization, and education
- Visual computing and graphics
- Visualization
- Time-frequency analysis
- Nonlinear signal processing
- Nonstationary signal processing
- Adaptive signal processing
- Biomedical signal processing
- Signal transforms
- Multi-rate signal processing
- Signal processing methods and algorithms
- Signal processing applications.

8. Applications

- Biomedical sciences.
- Mobile imaging.
- Geosciences and remote sensing.
- Astronomy and space exploration.
- Document image processing and analysis.
- Image Processing for Geophysics
- Image Processing for Public Health and Safety
- Biomedical and Biological Image Processing
- Emerging Applications and System

2. Biometrics

Biometrics are body measurements and calculations related to human characteristics. Biometric authentication (or realistic authentication) is used in computer science as a form of identification and access control. It is also used to identify individuals in groups that are under surveillance.

1. Biometric Recognition

- Palmprint, Iris, fingerprint, hand, ear, DNA, face, 3D face, gait, handwriting, voice, hand geometry, retina, periocular, anthropometry, facial thermogram, hand thermogram, knuckle, footprint, heartbeat.

2. Template protection

- Biometric encryption.
- Cancelable biometrics.
- Security and privacy.
- Anti-spoofing methods.
- Covariate analysis.
- Facial aging effects.
- Large scale deployments.
- Multi-biometric fusion.
- Novel biometrics.
- Novel sensors.
- Ocular recognition.
- Performance evaluation.
- Social impact analysis.
- Soft biometrics.
- Template aging.
- Usability studies.
- Feature quality improvements.

3. Multibiometric Systems

- Multi-classifiers fusion and score weighting.
- Machine vision and soft computing techniques in biometric fusion.
- Cognitive Biometrics.
- Emotion recognition.

4. Time-Varying Biometrics

- Age invariant biometrics recognition.
- Face Verification across age progression.

5. Mobile biometrics

- Continuous biometric recognition using wearable devices.
- Sensors for wearable technology (smartwatches, smart eyewear, smart t-shirt, etc.).
- Physical and behavioral in the mobile environment.
- Cognitive biometrics for wearable devices.
- Age and aging effects in mobile biometrics.
- Machine learning with limited computational resources.
- Biometric template protection: challenges and solutions in the mobile environment.
- Usability, interfaces, and human factors.
- Hardware architectures and software for biometric recognition on mobile and wearable devices.
- Affective computing in biometric recognition.

Bioinformatics

Bioinformatics is a subdiscipline of biology and computer science concerned with the acquisition, storage, analysis, and dissemination of biological data, most often DNA and amino acid sequences. Bioinformatics uses computer programs for a variety of applications, including determining gene and protein functions, establishing evolutionary relationships, and predicting the three-dimensional shapes of proteins.

1. Genome analysis

- Genome assembly.
- Genome and chromosome annotation
- Gene finding,
- Alternative splicing
- EST analysis.
- Comparative genomics and metagenomics.

2. Sequence analysis

- Multiple sequence alignment.
- Sequence search and clustering.
- Function prediction.
- Motif discovery.
- Functional site recognition in protein.
- RNA and DNA sequences.

3. Structural Bioinformatics

- Structure matching.
- Prediction, analysis, and comparison, methods and tools for docking, protein design.

4. Analysis of high-throughput biological data

- Microarrays (nucleic acid, protein, array CGH, genome tiling, and other arrays), EST, SAGE, MPSS, proteomics, mass spectrometry.

5. Genetic and population analysis

- Linkage analysis.
- Association analysis.
- Population simulation.
- Haplotyping.
- Marker discovery.
- Genotype calling.

6. Computational proteomics

- Filtering and indexing sequence databases.
- Peptide quantification and identification.
- Genome annotations via mass spectrometry.
- Identification of post-translational modifications.
- Structural genomics via mass spectrometry.
- Protein-protein interactions.
- Computational approaches to analysis of large-scale mass spectrometry data.
- Exploration and visualization of proteomics and genomics.
- Querying and retrieval of proteomics and genomics data.

Computer vision, computer graphics and pattern recognition

Computer vision is a field of artificial intelligence (AI) that enables computers and systems to derive meaningful information from digital images, videos and other visual inputs — and take actions or make recommendations based on that information. **Computer graphics** is a sub-field of computer science which studies methods for digitally synthesizing and manipulating visual content. **Pattern recognition** is a data analysis method that uses machine learning algorithms to automatically recognize patterns and regularities in data.

1. Computer Vision

- Color and Photometry in computer vision.
- Feature detection and matching.
- Structure from motion.
- Dense motion estimation.
- Image stitching.
- Computational photography.
- Stereo correspondence.
- 3D reconstruction.
- Image-based rendering.
- Big data in 3D computer vision.
- Video event categorization, tagging and retrieval.
- Underwater vision.
- Computer vision in vehicle technology.

- 3D representation and recognition.
- Understanding human activities.
- Wearable computer vision systems.
- Large-scale video search and mining.
- Computer vision for autonomous driving.
- Computer vision in sports.
- Embedded vision.
- Statistical machine learning.
- Structural and syntactic pattern recognition.
- Neural Network.
- Kernel methods.
- Graphical models.
- Bayesian methods.
- Computational optimization.
- Feature selection.
- Voting and fusion schemes.
- Compressed sensing detection and estimation.
- Animation.
- Artistic rendering.
- Font rendering & typography.
- Image warping & morphing.
- Visual simulation.
- Automatic Panoramic Image Stitching.
- Scene Segmentation.
- 3D Object Recognition.
- People Localization and Tracking.
- 3D Computer Vision
- Action Recognition
- Big data and Large Scale Methods
- Biometrics, face and gesture
- Biomedical image analysis
- Computational photography, photometry, shape from X
- Deep Learning
- Low-level vision and Image Processing
- Motion and Tracking
- Optimization methods
- Recognition: detection, categorization, indexing and matching
- Robot Vision
- Segmentation, grouping and shape representation
- Statistical learning
- Video: events, activities and surveillance
- Vision for X

- Hardware-Implemented Vision Systems
- Vision for the Real World: Robustness, learning, adaptability, self-assessment, failure recovery
- Vision for Action: Robotics, perception-action loops
- Vision in Context: Context awareness, knowledge representations, reasoning, goal specification
- Biological Vision: Computer vision inspired by biology or psychology
- Cognitive Vision Systems
- Human-computer interaction: Monitoring, supervised learning, scene interpretation
- Human-Robot Collaboration: Gesture recognition, scene understanding
- Performance Evaluation: benchmarks, methods and metrics

2. Computer Graphics

- Modeling
- Rendering
- HCI/user interfaces
- Graphical models
- Model Validation
- Computer Art
- 3-D object Extraction
- AI techniques
- Computer Aided Design

3. Animation

- Computer Animation
- Algorithms & Techniques
- Animation Systems
- Mobile Control Kinematics
- Plausible Motion Simulation
- Animation Languages
- Robotics
- Behavioral Animation
- Human Figure Animation
- Character Animation

4. Visualization

- Visualization, Virtual Reality and Augmented Reality
- Media immersion
- Graphics User Interface
- Information Visualization
- Visualization Software
- Computer Games
- Graph and Network Visualization
- Real-Time Simulation

- Human Perception

5. Pattern Recognition

- Artificial Intelligence Techniques in Pattern Recognition
- Bioinformatics Clustering
- Biometrics (including face recognition)
- Data Mining and Big Data
- Dataset: a new public dataset and baseline
- Deep Learning and Neural Networks for Pattern Recognition
- Document Processing and Recognition
- Fuzzy and Hybrid Techniques in PR
- High Performance Computing for Pattern Recognition
- Image Processing and Analysis
- Kernel Machines
- Mathematical Morphology
- Mathematical Theory of Pattern Recognition
- Medical Image Processing and Analysis
- Natural Language Processing and Recognition
- Object Detection, Tracking and Recognition
- Pattern Recognition Principles
- Pattern Recognition for optimization
- Real Systems, Applications and Case Studies of Pattern Recognition (e.g. health, environment, weather prediction, natural disasters, transportation, etc.)
- Robotics
- Remote Sensing
- Shape and Texture Analysis
- Signal Processing and Analysis
- Social Media and HCI
- Signal Processing and Analysis
- Statistical Pattern Recognition
- Syntactical and Structural Pattern Recognition
- Time series prediction
- Voice and Speech Recognition

Security

Computer security basically is the protection of computer systems and information from harm, theft, and unauthorized use. It is the process of preventing and detecting unauthorized use of your computer system. There are various types including Information security, Computer Security, Network Security, and Cybersecurity.

1. Communications and network security

- Cognitive radio security.
- Internet security.

- Security and privacy in emerging networks.
- Security and privacy in cloud computing.
- Wireless network security.
- Intrusion detection.

2. Information and computer security

- Access control and database security.
- Anonymity and E-voting.
- Authentication.
- Block Ciphers and Hash functions.
- Broadcast encryption and Traitor tracing.
- Combinatorial aspects.
- Covert channels and information flow.
- Critical infrastructures.
- Cryptanalysis.
- Dependability.
- Digital rights management.
- Digital signature schemes.
- Digital steganography.
- Economic aspects of information security.
- Elliptic curve cryptography and number theory.
- Embedded systems aspects.
- Embedded systems security and forensics.
- Financial cryptography.
- Firewall security.
- Formal methods and security verification.
- Human aspects.
- Information warfare and survivability.
- Java and XML security.
- Key distribution.
- Key management and secret sharing.
- Malware.
- Multi-party computation and threshold cryptography.
- Peer-to-peer security.
- PKIs, public-key and hybrid encryption.
- Quantum cryptography.
- Risks of using computers.
- Secure electronic commerce.
- Software obfuscation.
- Stream ciphers.
- Trust models.
- Watermarking and fingerprinting.

- Computer Forensics.

3. Cybersecurity

- Anti-malware techniques: detection, analysis, and prevention
- Security and privacy of mobile and smartphone platforms
- Anti-phishing, anti-blackmailing, anti-fraud techniques
- Security and privacy of systems based on machine learning and AI
- APTs, botnets, DDoS
- Security for cloud and edge computing
- Autonomous vehicles, industrial control systems
- Security for cyber-physical systems
- Cyber-attack prevention, detection, investigation, and response
- Security for emerging networks.

Human Computer Interaction (HCI)

Human-computer interaction (HCI) is a multidisciplinary field of study focusing on the design of computer technology and, in particular, the interaction between humans (the users) and computers. While initially concerned with computers, HCI has since expanded to cover almost all forms of information technology design.

1. General Topics

- Practice-oriented approaches to Sustainable HCI.
- The Theory and Practice of Embodied Interaction in HCI and Interaction Design.
- Social Media and Collaborative Systems for Crisis Management.
- Data Mining for Understanding User Needs.
- User Interface Description Languages for Next Generation User Interfaces.
- Aesthetics of Interaction.
- Web Accessibility.
- Information Systems for an Aging Society.
- Recommender Systems Interfaces.
- Sensing-based Interaction.
- Mobile and Adaptive Conversational Interfaces.
- Modeling Multiple and Collaborative Tasks.
- Human-Computer Interaction and Collaborative Virtual Environments.
- Human-Computer Interaction with Mobile Systems.
- Interface Issues and Designs for Safety-Critical Interactive Systems.
- Speech in Interactive Computing.
- Virtual Reality Software and Technology.

2. Interfaces

- Graphical user interfaces.
- Intelligent user interfaces.
- Adaptive user interfaces.
- Multi-modal user interfaces.

- Context-based interfaces.
- Virtual reality and 3D interfaces.
- Speech and natural language interfaces.
- Interfaces for collaborative systems.
- Interfaces for restricted environments.
- Internationalization and reflections of culture on interface design.
- Interfaces for disadvantaged users.
- Interface specification and design.
- Interface prototyping.
- Interface testing.
- Interface evaluation.
- Interface generators and other tools for developing interfaces.
- Data visualization.
- Visualization techniques.
- Interactive visualization.

3. HCI and sustainability

- What is the scope of sustainable HCI research presently?
- How does sustainable CHI align with global sustainability challenges?
- How could CHI research and practice support overcoming societal barriers to positive environmental changes?
- How does CHI relate to circular economies and life cycle thinking?
- What methods and methodologies support sustainable CHI research?
- How can CHI challenge unsustainable everyday practices?
- How can CHI support building sustainable cultures?
- How can CHI help develop sustainable behaviors among children and youth?

4. Human-centered industrial technologies

- Human-centered process optimization and systems integration.
- Human-centered chains; Human-centered risk management and nano-technology.
- Human-centered automation processes and technologies.
- Human-in-the-middle for micro and nano technology simulations; Industry chains and human-robot and human-agents interaction.
- Micro and nano technology-oriented human challenges.
- Human-oriented manufacturing processes
- Human aspects for reliable process chains.
- Risk management on nano-particles/interaction with human beings.
- Human-skills and nano-technologies (e.g., additive manufacturing).
- Industry 4.0 human-oriented challenges.

5. Organic user interfaces

- Interface-oriented materials and devices.
- Physical and digital representation.
- Sensing and display technologies.

- Rollable and foldable displays with tactile properties.
- Skin-based input.
- Analog input interaction design.
- Flexible display technologies.
- Functional-based display forms.
- Flexible-computing and curve computer interactions.
- 3D continuous display interfaces

6. Haptic interfaces

- Fundamental of haptic interactions.
- Tangible user interfaces.
- Bidirectional information flow.
- Haptography.
- Haptic feedback and control.
- Bodyware (embedded sensors; as flexible structures, associative memories, actuation and power systems).
- Magnetic levitation haptic interfaces.
- Kinetic motion-based interaction.
- Kinetic motion and haptic design.
- Mindware (learning, adaptation, head-hand coordination, bimanual coordination; discovering affordance, interaction and imitation).
- Language of motion / Gesture annotation; Interfaces with kinetic properties.
- Sensor actuator design, development and evaluation; Linear haptic display.
- Fingertip haptic display.
- Pen based force display.
- High bandwidth force display.
- Quality of experience model for haptic interactions.
- Haptics rendering.

7. Interactive systems

- Highly interactive systems.
- Intelligent agents and systems.
- Adaptive systems.
- Context-aware systems.
- Multi-user multi-interface systems.
- Collaborative systems.
- Computer-supported cooperative work.
- Distributed information spaces.
- Communicators and advisory systems.
- Interaction through wireless communication networks.

8. Interaction devices

- General input and output devices.
- Virtual reality input and output devices.

- Interaction devices for immersive environments.
- Shareable devices and services.
- Mobile devices and services.
- Pervasive devices and services.
- Small displays.
- Very large displays.
- Tangible user interfaces.
- Wearable computing.
- Interaction devices for disadvantaged users.
- Interaction devices for computer games.

9. Interaction & interface design & evaluation

- Interface metaphors.
- Interaction styles.
- Interaction paradigms.
- Requirements specification methods and tools.
- Analysis methods and tools.
- Design methods and tools.
- Evaluation paradigms.
- Evaluation methods and tools.
- Evaluation frameworks.
- Scenarios.
- Task analysis.
- Conceptual design.
- Physical design.
- Information architecture.
- Information design for websites.
- Guidelines and heuristics.
- Experience design; Environmental design.
- Ethnography.
- Contextual design.
- Service design.

10. Principles, theories, and models

- Cognitive models.
- Conceptual models.
- Mental models.
- Frameworks for cognition.
- Model-based design of interactive systems.
- Formal methods in human-computer interaction

11. User modeling and user focus

- Usability and user experience goals.
- User testing.

- User modeling.
- User profiling.
- Predictive models (e.g., for user delay prediction).
- Human perceptible thresholds.
- User support systems; Psychological foundations for designing interactive system; Human information processing; Digital human modeling; Engineering psychology; Ergonomics; Hearing and haptics; Affective computing

12. Children-computer interaction

- Using interface-oriented technology toys.
- Psychological basis for children interfaces.
- Children interfacing thinking.
- Smart interfaces for autistic children.
- Interactive application for Children with Mixed Abilities.
- Mining children's behaviors.
- Interaction with children with visual impairments.
- Kids haptic, wearable, tangible learning.
- Kids vocal interfaces.
- Immersive gameplay interfaces.
- Speech loudness interfaces.
- Children cognitive interfacing skills.
- Conveying children's emotions.
- Deformable interfaces for children.
- Incentivizing children crowdsourcing activities.
- Children and destructive games.
- Children and interacting fictions.
- Children and biotic game.
- Children participatory design.
- Children and visual design.
- Children emotional perception.
- Object-oriented drawing at young age.
- Children-powered access paradigms and technologies.
- Children social interaction experiences.
- Children online gaming behavior.
- Children and wearable devices.
- Children-oriented design interaction shortcuts.
- Teen's health self-care.
- Self-care technologies

13. Designing for an aging population

- Smart environments for elders
- Rethinking mobile interfaces for older users.
- Motion-based video games in care home settings.

- Interacting assistive approaches for elders.
- Detecting elderly emotion.
- Human-machine interaction for disabled users.
- Adult opportunistic device interactions.
- Elderly social interaction.
- Degrading skills adaptation for elderly interfaces.
- Robots' collaboration for elderly emergency.
- Unmanned systems for elderly.
- Applications of ecological interface design

14. Traditional and emerging paradigms

- Interaction paradigms.
- Mobile computing.
- Wearable computing.
- Location-aware computing.
- Context-aware computing.
- Ubiquitous computing.
- Pervasive computing.
- Transparent computing.
- Attentive environments.
- Virtual reality.
- Augmented reality and tangible bits.
- Immersive environments.
- Human-based computation.
- Visual languages and environments.
- End-user programming.
- Hypermedia advances and applications.
- New visions of human-computer interaction

15. Usability and universal accessibility

- Interaction and interface design for people with disabilities.
- Interaction and interface design for the young and the elderly.
- Universal access and usability.
- Usability engineering.
- Usability testing and evaluation.
- Usability and internationalization.

16. Human-Web Interaction

- Natural language interfaces.
- Keyword-based query interfaces.
- Hybrid query interfaces.
- Emotional behavior.
- Adaptive Web interfaces.
- Learning User Profiles.

- Personalized Interfaces.
- Remembrance Agents.
- Interaction visualization.
- Social and psychological challenges.

17. Human-robot interaction

- Fundamentals of human-robot cooperation.
- Cognitive models of human-robot interaction.
- Adaptable autonomy and knowledge exchange.
- Autonomy and trust.
- Awareness and monitoring of humans.
- Task allocation and coordination.
- Human guided robot learning.
- User evaluations of robot performance.
- Metrics for human-robot interaction.
- Long-term interaction robotics.
- Health and personal care robotics.
- Social Robotics.
- Multi-modal human-robot communication.
- Robot intermediaries.
- Experiments and applications.

18. Agents and human interaction

- Principles of agent-to-human interaction.
- Models for human-agent interaction.
- Social persuasion in human-agent interaction.
- Designing for human-agent interaction.
- Socially intelligent agents and the human in the loop.
- Agents for human-human interaction.
- Agent-based human-computer-interaction.
- Human cooperation and agent-based interaction.
- Human interaction with autonomous agents Agent-based human-robot interaction.
- Human and artificial agents emotional interaction.

19. Social aspects of human-computer interaction

- Societal implications of human-computer interactions.
- Social computing and software Online communities Weblogs and other community building tools Online support for discovery and creativity.
- Tool support for discovery and innovation Expressive and attentive interfaces and environments Affective aspects of human-computer interaction Emotional design.

20. Computer and gaming

- Computer game technology.
- Computer game engineering.

- Foundations of computer game design and development.
- Development processes and supporting tools.
- Management aspects of computer game development.
- Architectures and frameworks for computer games.
- Game-based training and simulation; Serious games.
- Multi-user games.
- Online gaming.
- Game theories.
- Audio, video and text in digital games.
- New computer games and case studies.
- Performance improvements in computer games.
- Social impact of games and gaming.

21. Human-computer interaction in education and training

- Interactive systems for education and training.
- Online and communications support for education and training.
- Interfaces, interactions and systems for distance education.
- Software tools for courseware development and delivery.
- Collaborative systems for teaching, studying and learning.
- Handheld mobile devices for education and training.
- Advisory and recommendation systems Techniques and tools for information localization, retrieval & storage.
- Web annotation systems.
- Case studies and applications.

22. Applications in medicine

- Interactive systems for medical applications.
- Interactive systems for telemedicine.
- Interactive systems for telehealth.
- Interactive systems for telepathology.
- Interactive systems for telecardiology.
- Interactive systems for telesurgery.
- Interactive personal medical devices.
- Digital imagery and visualization frameworks.
- Role of colors and color imaging in medicine.
- Multidimensional projections with application to medicine.
- Data mining and image retrieval techniques for medical applications.
- Imaging interfaces and navigation.
- Internet imaging localization, retrieval and archiving.
- Video techniques for medical images.
- Internet support for remote medicine.
- Computer-controlled communications for medical applications.
- Medical informatics.

- Software and devices for patient monitoring.
- Interactive software for therapy and recovery.

23. Teleconferencing

- Fundamentals for teleconferencing.
- Platforms for teleconferencing.
- Devices for teleconferencing.
- Videoconferencing, Web Conferencing.
- Performance in teleconference applications.
- Real-time aspects in teleconferencing.
- Privacy and security in teleconference applications.
- Teleconferencing services.
- Business models for teleconferencing.

24. Other domain applications

- Interactive interfaces and systems for scientific applications.
- Interactive interfaces and systems for engineering applications.
- Interactive interfaces and systems for business applications.
- Interactive interfaces and systems for activities in arts & humanities.
- Interactive interfaces and systems for scientific research.
- Other applications of interactive interfaces and systems.

Communication Networks

communication network refers to the structure and flow of communication and information between individuals within a group. Within many groups, formal and informal communication is often characterized by a top-down hierarchical pattern, in which members direct communication to others at the same level or below but not above.

1. General topics

- Ad-hoc and sensor networking.
- Communication and information system security.
- Communication QoS, reliability and modeling.
- Cognitive radio networks.
- Communications software and services.
- Next-generation networking.
- Optical networks and systems.
- Signal processing for communications.
- Wireless communications.
- Wireless networks.
- Satellite and space communication.
- 5G/6G Cellular Systems and Heterogeneous Networks
- Big Data / IoT Analytics in Networking
- Blockchain and Distributed Ledger
- Communication Network Architectures, Protocols and Design

- Emerging Technologies for Next Generation Network
- Energy Saving Protocols for Ad hoc and Sensor Networks
- Future Internet Architecture, Protocols and Services
- Information / Content centric networks (ICN)
- Internet Measurement and Modeling
- Internet of Things (IoT)
- Machine Learning and AI in Networking
- Mobile Ad hoc and Sensor networks
- Mobile and Wireless Networks
- Network Applications, Operation and Management
- Network Security and Privacy
- Network Services and Applications
- Nomadic Computing, Applications and Services Supporting the Mobile User
- OS and Middleware Support for Mobile Computing and Networking
- Performance of Mobile and Wireless Networks and Systems
- Satellite Communications
- SDN/NFV and Network Programmability
- Software-defined networking (SDN) and network virtualization
- Ubiquitous and Cloud Computing
- Vehicle-to-everything (V2X) and autonomous cars
- Vehicular Networks & Intelligent Transportation
- VR/AR Streaming
- Wireless Multimedia Systems

Big Data and Data Analytics

Big Data analytics is the process used to extract meaningful insights, such as hidden patterns, unknown correlations, market trends, and customer preferences from a collection of data that is huge in volume, yet growing exponentially with time.

1. General Topics

- Big Data analytics.
- Big Data analytics platforms.
- In-memory distributed analytics schemes/algorithms.
- Heterogeneous data integration.
- Data stream mining algorithms and techniques.
- Algorithms for Big Data visualization.
- Assessment of quality of data for Big Data analysis.
- Sentiment analysis.
- Live drug response analysis.
- Security and privacy issues related to Healthcare information exchange.
- Metadata management.
- Information retrieval tools for efficient data searching.
- Efficient processing architectures for Big Data.

- Hadoop and MapReduce platforms for efficient stream processing.
- Big Data efficient visualization.
- Data mining algorithms for complex data types.
- Big Data visualization techniques.
- Mining Time-series, real-time, and contextual data.
- Techniques for data fusion, aggregation, and integration.
- Cloud Analytics and Analytics as a Service.
- Analysis of Streaming Data from Sensory Networks.
- Applications of data analytics in health systems, tourism, transportation systems, and the Internet of Things.

2. Big Data Infrastructure

- Cloud/Grid/Stream Computing for Big Data.
- High Performance/Parallel Computing Platforms for Big Data.
- Autonomic Computing and Cyber-infrastructure, System Architectures, Design and Deployment.
- Energy-efficient Computing for Big Data.
- Programming Models and Environments for Cluster, Cloud, and Grid Computing to Support Big Data.
- Software Techniques and Architectures in Cloud/Grid/Stream Computing.
- Big Data Open Platforms.
- New Programming Models for Big Data beyond.
- Hadoop/MapReduce, STORM.
- Software Systems to Support Big Data Computing.

3. Big Data Management

- Advanced database and Web Applications.
- Novel Data Model and Databases for Emerging Hardware.
- Data Preservation.
- Data Provenance.
- Interfaces to Database Systems and Analytics Software Systems.
- Data Protection, Integrity and Privacy Standards and Policies.
- Information Integration and Heterogeneous and Multi-structured Data Integration.
- Data management for Mobile and Pervasive Computing.
- Data Management in the Social Web.
- Crowdsourcing.
- Spatiotemporal and Stream Data Management.
- Scientific Data Management.
- Workflow Optimization.
- Database Management Challenges: Architecture, Storage, User Interfaces.

4. Big Data Search and Mining

- Social Web Search and Mining.
- Web Search.

- Algorithms and Systems for Big Data Search.
- Distributed, and Peer-to-peer Search.
- Big Data Search Architectures, Scalability and Efficiency.
- Data Acquisition, Integration, Cleaning, and Best Practices.
- Visualization Analytics for Big Data.
- Computational Modeling and Data Integration.
- Large-scale Recommendation Systems and Social Media Systems.
- Cloud/Grid/Stream Data Mining- Big Velocity Data.
- Link and Graph Mining.
- Semantic-based Data Mining and Data Pre-processing.
- Mobility and Big Data.
- Multimedia and Multi-structured Data- Big Variety Data.

5. Big Data Security & Privacy

- Intrusion Detection for Gigabit Networks.
- Anomaly and APT Detection in Very Large-Scale Systems.
- High Performance Cryptography.
- Visualizing Large Scale Security Data.
- Threat Detection using Big Data Analytics.
- Privacy Threats of Big Data.
- Privacy Preserving Big Data Collection/Analytics.
- HCI Challenges for Big Data Security & Privacy.
- User Studies for any of the above.
- Sociological Aspects of Big Data Privacy.

6. Big Data Applications

- Complex Big Data Applications in Science, Engineering, Medicine, Healthcare, Finance, Business, Law, Education, Transportation, Retailing, Telecommunication.
- Big Data Analytics in Small Business Enterprises (SMEs).
- Big Data Analytics in Government, Public Sector and Society in General.
- Real-life Case Studies of Value Creation through Big Data Analytics.
- Big Data as a Service.
- Big Data Industry Standards.
- Experiences with Big Data Project Deployments.

7. Big Data Foundations

- Novel Theoretical Models for Big Data.
- New Computational Models for Big Data.
- Data and Information Quality for Big Data.
- New Data Standards.

8. Real-Time Big Data Analytics

- Techniques and Algorithms for Real-Time Big Data Analytics.
- Applications and Evaluation of Real-Time Big Data Systems.

9. Big Data / Smart Cities

- Big Data for Improving Resilient Infrastructures
- Big Data Applications such as Healthcare and Transportation

Internet of Things (IoT)

The internet of things is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers (UIDs) and the ability to transfer data over a network without requiring human-to-human or human-to-Computer interaction.

1. General topics

- Device discovery and management in dynamic IoT environments.
- Cyber-physical and other IoT systems architectures.
- Network architecture and system design in IoT.
- Addressing and naming in IoT.
- Programming models for the IoT.
- IoT and Cloud computing.
- Integration with existing standards and protocols (e.g., RPL, 6LoWPAN, CoAP, MQTT).
- Data management in IoT.
- Vehicular Cloud.
- Wearable sensors for human activity monitoring.
- Context-aware computing for the Internet of Things.
- Service orchestration for the Internet of Things.
- Heterogeneous sensor data management for the Internet of Things.
- Machine-type Communication and Machine to Machine (MTC/M2M).
- Energy efficient management and sustainable operation of IoT/M2M objects.
- Information centric network for IoT.
- Social networks for IoT.
- Smart cities applications and architectures.
- IoT traffic characterization.
- Privacy, Security and Trust for IoT.
- Modeling and simulation of large-scale IoT scenarios.
- Testbed, prototype, and practical systems for IoT use cases.

Embedded Systems

Embedded systems are special-purpose computing systems embedded in application environments or in other computing systems and provide specialized support. The decreasing cost of processing power, combined with the decreasing cost of memory and the ability to design low-cost systems on chip, has led to the development and deployment of embedded computing systems in a wide range of application environments.

1. General Topics

- Embedded System Architecture.

- Embedded Software Architectures.
- Embedded OS, Scheduling and Runtime Support.
- Embedded Storage and I/O Systems.
- Real-Time Embedded Systems.
- Distributed and Networked Embedded Systems.
- Fault Tolerant and Trusted Embedded Systems.
- Power and Thermal Aware Computing.
- Mixed-Criticality Embedded Systems.
- Heterogeneous SoC and Multicore Embedded Systems.
- Reconfigurable Embedded Computing.

2. Design Methodology & Tools

- Design Technologies of Embedded Systems
- Formal Methods for Embedded Systems
- Middleware for Embedded Systems
- IDE and Software Tools
- Hardware/Software Co-Design
- Component-Based Embedded Software Design
- Model-based Design for Embedded Software
- Domain/Application-Specific Design Techniques
- Testing Techniques for Embedded Software/Systems
- Verification and Validation for Embedded Systems
- Compilation and Debug Techniques and Tools
- Performance Evaluation Techniques and Tools
- Safety of Machine Learning for Embedded Systems

4. Emerging Embedded Applications and Interdisciplinary Topics

- Intelligent Embedded Systems.
- Machine Learning for Embedded Applications.
- Internet-of-Things (IoT).
- Wearable Computing.
- Smart City.
- Robotics and Control Systems.
- Wireless Sensor Networks.
- Cyber-Physical Systems (CPS).
- Assured Autonomy for Safety-Critical CPS.
- Automotive and Avionics Systems.
- Medical Systems.
- Database & Multimedia Systems.
- Network Protocols and Security.
- Emergency and Disaster Management.
- Consumer Electronics.
- Mobile Cloud Computing.

- Industrial Practices and Case Studies.

Pervasive and Mobile Computing

Pervasive computing, also called ubiquitous computing, is the growing trend of embedding computational capability (generally in the form of microprocessors) into everyday objects to make them effectively communicate and perform useful tasks in a way that minimizes the end user's need to interact with computers.

1. Advances in pervasive systems and infrastructures:

- Middleware systems and services.
- Data engineering for pervasive computing.
- Cloud, fog and edge computing.
- Integrations of smartphones in pervasive experiences.
- Applications of device-to-device coordination.

2. Theories, models, and algorithms:

- Context modeling and reasoning
- Adaptive computing.
- Activity and emotion recognition
- Programming paradigms
- Applied machine learning
- Deep machine learning
- Federated learning
- Causal learning
- Cognitive computing
- Complex networks
- Spatio-temporal modeling techniques.

3. Domain-specific challenges and novel applications

- Urban/mobile crowdsensing & intelligence
- Percom for healthcare and well-being
- Smart homes and virtual assistants
- Innovative percom applications (e.g., sports analytics, crime prevention, pervasive nowcasting).

4. New techniques for user-level concerns

- Participatory and social sensing
- Trust, security, and privacy
- User interface, interaction, and persuasion
- Online and offline social networking and pervasive computing.

5. Technological innovations

- Architectures, protocols, and technologies for pervasive communications
- Energy-harvesting, self-powered, or battery-less systems
- Mobile and wearable systems

- Smart devices and environments
- Positioning and tracking technologies
- Wireless crowd-recharging
- Device-free human sensing.
- Pervasive computing for vehicular systems:
 - Connected vehicles
 - Vehicular ad-hoc networks
 - Intelligent transport systems (ITS)
 - Mobile and pervasive computing for/by vehicles
 - Human-machine interface for vehicular systems
 - V2x communications (vehicles, roadside units, infrastructure, drones, pedestrians)
 - Mobile edge computing
 - Autonomous/automated vehicles
 - Middleware for vehicular systems
 - New applications for vehicular systems
 - Security for vehicular systems
 - Gender equality/neutrality in vehicular systems

Web Technology

Web Technology refers to the various tools and techniques that are utilized in the process of communication between different types of devices over the internet.

1. Web of People

- Crowdsourcing and Social Data Mining
- Human-Centric Computing
- Information Diffusion
- Knowledge Community Support
- Modelling Crowd-Sourcing
- Opinion Mining
- People Oriented Applications and Services
- Recommendation Engines
- Sentiment Analysis
- Situational Awareness Social Network Analysis
- Social Groups and Dynamics
- Social Media and Dynamics
- Social Networks Analytics
- User and Behavioral Modelling

2. Web of Data

- Algorithms and Knowledge Management
- Autonomy-Oriented Computing (AOC)
- Big Data Analytics
- Big Data and Human Brain Complex Systems

- Cognitive Models
- Computational Models
- Data-Driven Services and Applications
- Data Integration and Data Provenance
- Data Science and Machine Learning
- Graph Isomorphism
- Graph Theory
- Information Search and Retrieval
- Knowledge Graph
- Knowledge Graph and Semantic Networks
- Linked Data Management and Analytics
- Self-Organizing Networks
- Semantic Networks
- Sensor Networks
- Web Science

3. Web of Things

- Complex Networks.
- Distributed Systems and Devices.
- Dynamics of Networks.
- Industrial Multi-Domain Web.
- Intelligent Ubiquitous Web of Things.
- IoT Data Analytics.
- Location and Time Awareness.
- Open Autonomous Systems.
- Streaming Data Analysis.
- Web Infrastructures and Devices Mobile Web.
- Wisdom Web of Things (W2T).

4. Web of Trust

- Blockchain analytics and technologies.
- Fake content and fraud detection.
- Hidden Web Analytics.
- Monetization Services and Applications.
- Trust Models for Agents.
- Ubiquitous Computing.
- Web Cryptography.
- Monetization services and applications.
- Web safety and openness.

5. Web of Agents

- Agent Networks.
- Autonomy Remembrance Agents.
- Autonomy-oriented Computing.

- Behavior Modelling.
- Distributed Problem-Solving Global Brain.
- Edge Computing.
- Individual-based Modelling Knowledge.
- Information Agents.
- Local-Global Behavioral Interactions.
- Mechanism Design.
- Multi-Agent Systems.
- Network Autonomy Remembrance Agents.
- Self-adaptive Evolutionary Systems.
- Self-organizing Systems.
- Social Groups and Dynamics.

6. Emerging Web in Health and Smart Living

- Big Data in Medicine.
- City Brain and Global Brain.
- Digital Ecosystems.
- Digital Epidemiology.
- Health Data Exchange and Sharing.
- Healthcare and Medical Applications and Services.
- Omics Research and Trends.
- Personalized Health Management and Analytics.
- Smart City Applications and Services.
- Time Awareness and Location Awareness Smart City.
- Wellbeing and Healthcare in the 5G Era.

7. Semantic Web and XML

- Semantic Web Architectures.
- Semantic Web Middleware.
- Semantic Web Services.
- Semantic Web Agents.
- Ontologies.
- Applications of Semantic Web.
- Semantic Web Data Management.
- Information Retrieval in Semantic Web.

8. Applications and uses

- E-Learning.
- E-Commerce / e-Business.
- E-Government.
- E-Health.
- E-Procurement.
- E-Society.
- Digital Libraries.

- Web Services/SaaS.
- Application Interoperability.
- Web-based multimedia technologies.

9. Emergent Areas

- Digital Transformation.
- Blockchain.
- Bitcoin and other cryptocurrencies.

استراتيجية تنفيذ الخطة البحثية

تدعم كلية الحاسبات والمعلومات مجموعة من الأنشطة البحثية التي تصب في تحقيق الهدف الاستراتيجي للخطة البحثية، وتتنوع الأنشطة ما بين تسجيل الرسائل العلمية لطلاب الدراسات العليا وحضور المؤتمرات العلمية ونشر الأبحاث العلمية وعقد الندوات وورش العمل بشكل دوري. وقد قام كل من الأقسام العلمية بتحديد الأنشطة التي تسهم في تقديم إسهامات ملموسة في المجالات البحثية المستهدفة ووضع جدول زمني لتلك الأنشطة.

استراتيجية تنفيذ الخطة البحثية لقسم تكنولوجيا المعلومات

م	اسم الباحث	عنوان الرسالة	عنوان الرسالة باللغة الإنجليزية	تاريخ القسم للتسجيل	تاريخ التسجيل	الدرجة و التخصص
١	فدوى عبد الباري أحمد محمد	تحسين نظام كشف التسلل القائم على الوثوق في شبكة الاستشعار اللاسلكية	Enhancing Trusted – Based Intrusion Detection System for Wireless Sensor Network	٢٠٢٠-١-٢٨	٢٠٢٠-٢-٢٧	درجة دكتوراة الفلسفة في تكنولوجيا المعلومات
٢	ايمان طارق ياسين المتولي	الاختيار الموثمن لخوارزميات تعلم الآلة	Algorithm Selection in Automated Machine Learning	٢٠١٩-١-٢٦	٢٠٢٠-٠١-٠٢	درجة دكتوراة الفلسفة في تكنولوجيا المعلومات
٣	محمد طاهر محمد عزام	تطبيقات خوارزميات الذكاء الاصطناعي في علم الأورام	Applications of Artificial Intelligence Algorithms in Oncology	٢٠٢١-٠٢-٠٣	٢٠٢١-٠٢-٢٨	درجة دكتوراة الفلسفة في تكنولوجيا المعلومات
٤	نها سعود علي فايد	ادراك الموقف باستخدام تقنيات دمج بيانات الحساسات الغير المتجانسة	Situation Awareness Via Heterogenous Sensor Data Fusion	٢٠١٦-٠٢-٢٨	٢٠١٦-٠٣-٢٨	درجة دكتوراة الفلسفة في تكنولوجيا المعلومات
٥	نيرة العزب سعد العزب ابراهيم	تشخيص أورام الدماغ المختلفة بناءاً على الصور النسيجية	Diagnosis of Different Brain Tumor Grades based on Histopathological Images	٢٠٢١-٠٥-٠٩	٢٠٢١-٠٥-٢٥	درجة دكتوراة الفلسفة في تكنولوجيا المعلومات

درجة دكتوراة الفلسفة في تكنولوجيا المعلومات	٢٠١٩-١٠-٢٤	٢٠١٩-٠٩-٢٤	Genome Sequence Analysis for Early Signs Detection of Alzheimer's Disease using Different Brain Imaging Modalities	تحليل تسلسل الجينوم للكشف المبكر عن علامات مرض الزهايمر بناء على طرائق تصوير الدماغ المختلفة	هاله أحمد على عكاشة	٦
درجة دكتوراة الفلسفة في تكنولوجيا المعلومات	٢٠٢١-٠٨-٠٢	٢٠٢١-٠٦-٢٩	A Computer-Aided Diagnosis System for Hepatic Tumors	نظام تشخيص لأورام الكبد بمساعدة الحاسوب	ياسمين السعيد عبده المرسي بهلول	٧
درجة الماجستير في تكنولوجيا المعلومات	٢٠٢٠-٠٢-٢٨	٢٠٢٠-١٢-٢٩	Information hiding in color images using Steganography Techniques	إخفاء المعلومات في الصور باستخدام تقنيات الإخفاء المشفرة	لأفا عبد الكريم حسن	٨
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٢-٠٤-٢٩	٢٠١٢-٠٣-٢٧	Performance Evaluation of Long-term Evolution (LTE) Network with next Generation Networks (NGN)	تقييم أداء شبكة التطور طويل الأمد مع شبكات الجيل التالي	نطف حسن أحمد الذاري	٩
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٣-٠٣-٢٠	٢٠١٣-٠٢-٢٦	Botnet Analysis and Detection System	نظام لتحليل و كشف البرمجيات الخبیثة (بوتنت)	أحمد جمال محمد رمضان	١٠
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٥-١٢-١٦	٢٠١٥-١٠-٢٧	Text Mining in Social Media	التنقيب النصي في وسائل التواصل الاجتماعي	أسماء محمود المحمدي السيد علي	١١
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٣-٠٣-١٧	٢٠١٣-٠٢-٢٦	The Tradeoff Analysis of using the Cloud as Mobile Outsourcing Backend	تحليل المقاضلة في استخدام نظام الحوسبة السحابية كخلفية لحسابات المحمول	اكرم أشرف محمد عسكر	١٢
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٥-٠٤-٢١	٢٠١٥-٠٣-٣١	A proposed Technique for Image Fusion Based on Wave-Packet	تقنية مقترح لاندماج الصور مبنية على الحزم الموجية	الهام يوسف محمد عوض	١٣
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٦-٠٩-٠٤	٢٠١٦-٠٤-٠٣	Orchestration of Smart City Services	تعاون بين خدمات المدن الذكية	اميرة عبد الناصر عبد العال محمد عبد العال	١٤

درجة الماجستير في تكنولوجيا المعلومات	٢٠١٦-٠٦-٢٩	٢٠١٦-٠٥-٣١	Semantic Web Search Engine	محرك بحث باستخدام الويب الدلالي	ايمان احمد السيد احمد الدياسطي	١٥
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٨-٠٥-٣٠	٢٠١٥-١٠-٢٧	Handling Uncertain Data Challenges	تحديات التعامل مع البيانات الغير مؤكدة	ايمان السعيد السعيد عبد الحي محسن	١٦
					ايمان الغريب محمد عبد المعطي الخطيب	١٧
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٣-١٠-٢٤	٢٠١٣-٠٩-٢٤	Tone Mapping for High Dynamic Range Images	معالجة التدرج اللوني للصور ذات النطاق الديناميكي العالي	ايمان صالح حمدي صالح	١٨
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٤-١١-٢٥	٢٠١٤-١٠-٢٨	Content based Video Retrieval using Audio Content	استرجاع محتويات الفيديو المبني على الصوت المصاحب	اية الله محمد عبد الغفار برهام	١٩
درجة الماجستير في تكنولوجيا المعلومات	٢٠٢١-٠٣-١٥	٢٠٢١-٠٢-٠٣	Enhancing Anomalous Activity Detection in IOT Networks Using Machine Learning and Intrusion Detection System	تحسين اكتشاف النشاط الخبيث في شبكات انترنت الاشياء باستخدام تعلم الآلة و نظام كشف التسلل	اية جمال احمد عياد	٢٠
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٤-٠٣-٢٣	٢٠١٤-٠٢-٢٥	Near-duplicate Video Retrieval	استرجاع الفيديوهات المتكررة	بسمة عبد الحليم احمد عبد الحليم	٢١
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٥-١٢-٢٨	٢٠١٥-١٠-٢٧	Heart Disease Prediction using Machine Learning Algorithms	التنبؤ بأمراض القلب باستخدام خوارزميات التعلم الآلي	بسنت عبد المنعم متولي محمد	٢٢
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٣-٠٤-١٧	٢٠١٣-٠٢-٢٦	Automated Diagnosis System for Lung Scans	نظام الي لتشخيص صور الاشعة للرئة	بسنت عصام الدين ابراهيم السيد حنفي	٢٣
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٦-١١-١٧	٢٠١٦-١٠-٢٥	Cloud Computing for Health Care Applications	الحوسبة السحابية لتطبيقات الرعاية الصحية	دينا رمضان عبد العظيم شلضوم	٢٤

درجة الماجستير في تكنولوجيا المعلومات	٢٠١٥-٠٣-٢٤	٢٠١٥-٠٣-٠٣	Educational Data Mining	التنقيب في البيانات التعليمية	رشا حمدي محمد يوسف	٢٥
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٩-٠٤-١٨	٢٠١٩-٠٣-٢٦	Enhancing Task Scheduling in Mobile Crowd Sensing System	تعزيز جدولة المهام في أنظمة الاتصال الاستشعار المحمولة	رشا عاطف احمد سليم	٢٦
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٥-١٢-١٦	٢٠١٥-١٠-٢٧	Data Mining for NOSQL Database	تنقيب البيانات في قاعدة البيانات NOSQL	رنا أحمد صالح أحمد ربيع	٢٧
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٢-٠٤-٢٢	٢٠١٢-٠٣-٢٧	Study of Enhancing MAC Address Spoofing Detection Techniques	دراسة تحسين طرق اكتشاف تزوير عنوان تعريف كارت الشبكة	ساره عادل عباس السيد	٢٨
درجة الماجستير في تكنولوجيا المعلومات	٢٠٢١-٠٣-٠٧	٢٠٢١-٠٢-٠٣	Medical Data Analysis Based on Fuzzy Ontology and Machine Learning Techniques	تحليل البيانات الطبية على أساس الانطولوجيا المبهمة و تقنيات تعلم الآلة	ساره مروان مكرم محمد احمد	٢٩
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٣-١٢-٠١	٢٠١٣-١٠-٢٩	Big Data Analytics Systems in Cloud Computing	انظمة تحليلات البيانات الضخمة في الحوسبة السحابية	سريه السيد علي عشري	٣٠
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٧-١٢-٢٥	٢٠١٧-١٠-٣١	Graph Analysis over Big Data Platforms	تحليل البيانات الرسومية على منصات البيانات الكبيرة	سعاد محمد أحمد الشحات	٣١
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٨-٥-٣٠	٢٠١٧-٠٤-٢٤	Enhanced Web Recommendations Techniques	تقنيات محسنة لتوصيات الويب	سلمى عادل عباس محمد الزهيري	٣٢
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٢-٠٤-٢٣	٢٠١٢-٠٣-٢٧	Context Awareness in Mobile Devices	التعرف على الحالة في الأجهزة المتنقلة	عايده عبد المحسن عطية محمود	٣٣
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٤-٠٣-٢٨		DNA-based Cryptography	التشفير المبني على الحمض النووي	عبد الله السعيد خليل محمود	٣٤

درجة الماجستير في تكنولوجيا المعلومات	٢٠١٥-٠٣-٢٦	٢٠١٥-٠٣-٠٣	Handling Missing Values in Data Stream	معالجة القيم المفقودة في تدفق البيانات	عزه علي عبد العزيز مصطفى خليل	٣٥
درجة الماجستير في تكنولوجيا المعلومات	٢٠٢١-٠٢-٠٧	٢٠٢٠-١٢-٢٩	Primary Open Angle Glaucoma Early Detection and Progression based on Machine Learning Techniques	الكشف المبكر عن الجلوكوما الأولية مفتوحة الزاوية و تطورها بناءا على تقنيات التعلم الآلي	علياء علي محمد عبد الخالق علي	٣٦
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٦-١١-١٦	٢٠١٦-١٠-٢٥	Detection of Feature Evolution for Big Data Stream Analytics	اكتشاف تطور الخصائص لتحليل البيانات الكبيرة المتدفقة	ماجد عبد المعطي محمد علي محمد	٣٧
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٧-٠٤-٢٠	٢٠١٧-٠٣-٢٨	Data Interoperability in E- Government Services using Mobile Cloud Computing	قابلية نقل البيانات في خدمات الحكومة الالكترونية باستخدام الحوسبة السحابية المتنقلة	محمد صلاح السعيد السيد الصعيدي	٣٨
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٧-٠٣-٠٢	٢٠١٧-٠١-٢٤	Role of Machine Learning in Early Detection of Retinal Diseases	دور التعلم الآلي في التنبؤ المبكر على الامراض الشبكية	محمد محمد مختار حسن الشرقاوي	٣٩
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٦-١١-١٧	٢٠١٦-١٠-٢٥	Software Defined Networking	الشبكة المعرفة على البرمجيات	محمود حسن محمود السيد السلاموني	٤٠
درجة الماجستير في تكنولوجيا المعلومات	٢٠٢٠-٠١-٢٦	٢٠١٩-١١-٢٦	Preserving User Privacy and Data Integrity in Mobile Crowd Sensing	الحفاظ على خصوصية المستخدم و سلامة البيانات في استشعار الحشود المتنقلة	محمود محمد محمد جاد سيد احمد	٤١
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٩-٠٩-٠٣	٢٠١٩-٠٧-٣٠	Enhancing the Performance of WSN based on Different LEACH Routing Protocol	تحسين أداء شبكة الاستشعار اللاسلكية استنادا الى بروتوكولات توجيه هرمية تجميعية اقل تكلفة للطاقة	مروه جمال محمد حجاز	٤٢
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٩-٠٩-٠٣	٢٠١٩-٧-٣٠	Predicting Genes Related to Parkinson's Disease	التنبؤ بالجينات المسببة لمرض الشلل الرعاش	مروه حلمي محمد غنام	٤٣

درجة الماجستير في تكنولوجيا المعلومات	٢٠١٦-١١-١٤	٢٠١٦-١٠-٢٥	Identification and Classification of Crowd Activities	تحديد و تصنيف أنشطة الجموع	منار الشهاوي عمر الشهاوي الدمهوجي	٤٤
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٦-١١-١٥	٢٠١٦-١٠-٢٥	Applications of Data Mining in Cloud Computing	تطبيقات التنقيب عن البيانات في الحوسبة السحابية	منى محفوظ محمد نصر شقوير	٤٥
درجة الماجستير في تكنولوجيا المعلومات	٢٠٢١-٠٣-١٧	٢٠٢١-٠٢-٠٣	Colon Cancer Diagnosis based on Deep Learning Techniques	تشخيص سرطان القولون على أساس تقنيات تعلم الآلة العميق	مي محمد ثروت محمود عبد الرحمن السنفاوي	٤٦
درجة الماجستير في تكنولوجيا المعلومات	٢٠٢١-٠٣-١٤	٢٠٢١-٠١-٢٦	Early Diagnosis of COVID-19 based on Medical Image Analysis	التشخيص المبكر لفيروس كوفيد- ١٩ عن طريق تحليل الصور الطبية	ندا ضياء محمود حامد شعبان	٤٧
درجة الماجستير في تكنولوجيا المعلومات	٢٠٢١-٠٣-٢٨	٢٠٢١-٠٣-٢٩	Enhancing User Interaction in Distributed Collaborative Environments	تحسين تفاعل المستخدم في البيانات التعاونية الموزعة	ندا ناصر عبد الفتاح المداح	٤٨
درجة الماجستير في تكنولوجيا المعلومات	٢٠٢١-٠٢-٠٧	٢٠١٩-١٢-٢٩	Kinship Verification Analysis	تحليل التحقق من القرابة	نرمين نادر نعمان محمد التلباني	٤٩
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٩-١١-٢٢	٢٠١٩-٠٩-٢٩	Ensuring QoS and High Availability over Cloud Applications	ضمان جودة الخدمة و إتاحة تطبيقات الحوسبة السحابية	نرين عوض محمد عوض	٥٠
درجة الماجستير في تكنولوجيا المعلومات	٢٠٢١-٠٢-٠٧	٢٠٢٠-١١-٢٩	Detection of Denial of Service Attack in Vehicular Ad-hoc Networks	الكشف عن هجوم منع الخدمة في شبكات المركبات	نسمه عبد اللطيف قاسمي عرفات عحيزة	٥١
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٢-١٠-٢٤	٢٠١٢-٠٩-٢٥	Fusion of Medical Images	دمج الصور الطبية	نهاده جمال ابو بكر موسى	٥٢

درجة الماجستير في تكنولوجيا المعلومات	٢٠١٧-٠٤-٢٠	٢٠١٧-٠٣-٢٨	Securing Data Deduplication Techniques for Cloud Storage	تأمين تقنيات حذف البيانات المكررة المستخدمة في التخزين السحابي	وفاء عبد الله محمد القاضي	٥٣
درجة الماجستير في تكنولوجيا المعلومات	٢٠١٦-٠٧-٢٩	٢٠١٦-٠٥-٣١	Penetration Testing for Web Services	اختبار الاختراق لخدمات الويب	ياسمين رأفت نعمان السيد	٥٤
			Underwater Image Enhancement		ياسمين الصقار	٥٥
					محمود عبد السلام	٥٦
					أحمد عبد الحميد الزكي	٥٧
					محمد أشرف	٥٨
					هديل السيسي	٥٩
					خلود عامر	٦٠
					خلود سرور	٦١
					أيمن القصاص	٦٢
					محمد السيد	٦٣