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| **序號** | **reviewer** | **類別** | **unit** | **Web link** | **英文網站檢核** |
| 3 | Andrew Bliss | 學術 | 資訊工程系 | <http://csie.stust.edu.tw/en> | **About us**  The department upholds the school motto of "honesty and faith,” cultivating human culture, science and technology, innovative thinking and fostering an international perspective of practical talents. The department is comprised of five core areas: Humanities and Social Sciences, College of Business, Digital Design School of Engineering and the Research Center, focusing on teaching and research, as well as theory and practice. It is the school’s aim to provide continual development in order in the spirit of enterprise-class institutions. The department’s main concentrations are on professional knowledge and ability, and humane care; hardware and software construction; theoretical teaching and featured production; academic research and industry-university cooperation; and domestic development and international exchange.  **University education goals**  The school’s educational objectives are:  •Both teaching and research, in order to establish Southern Taiwan University of Science and Technology as a highly competitive international university with the best domestic-industry cooperation.  •Both humanities and science and technology, to develop a global vision and independent thinking, which are highly valued and socially useful talents.  The famous university and research center located in Yongkang City, Tainan counties at the junction of downtown, near the park zone, Science and Industry Park, Yongkang Industrial Zone and successful universities, excellent location. The chairman, Mr. Gao Qingyuan school and the school board of directors for many years under the full support of the school through the previous president of the Southern Taiwan intentions after running the schools, and the school consider the advantages and disadvantages of subjective and objective environmental conditions, and carefully planning the university's business strategy, and set given the key characteristics of school development. The school also set the assessment indicators, such as: international exchange part of the proposed number of students each year and 250 foreign; industrial part of the preparation of the implementation of the KPI system to incorporate self-assessment and teacher score, Cooperation incentives grade teacher with paid internships, campus venture capital financing and management measures; part of the implementation of information technology curriculum and teaching aids and comprehensive e-school information e Netcom. Under a forward-looking idea of running the planning and implementation of active policies, so that the Ministry of Education in the school or outside of competitions, such as teaching excellence, technical and vocational competitions Billboard, favorite business surveys, are among the best.  Educational goals and philosophy and long-range development plan Institute continuation school, the Institute of Education set goals:  •Culture and integration of various engineering and technology engineers, with independent problem solving, engineering and management, and the ability to integrate the combined system.  •Both theoretical and practical application of technology, research and development project related fields, combined with industry needs with the vision of promoting widespread application engineering.  •Culture Personality and Social Care of lifelong learning.  The Department of Education is committed to the purpose of information engineering education and research, innovative thinking, professional ability, dedication of friends and professional ethics literacy, community service groups, and establishing sustainable management of the environment. The department, after initial embryonic laid the foundation, with the Chinese Engineering Society of Education (Institute of Engineering Education Taiwan, IEET) of engineering education certification specifications, within the archive department colleagues, industry experts, graduated from the Department of friends, employers, parents and students of views entered into educational goals and core competencies of the department.  **Admissions and academic classes**  University Department of daytime class have eight classes (two classes per grade)  Day class undergraduate education section has four classes (each grade)  Master’s degree candidates have two years to graduate  After this department was established within the Department of the teacher and students are conscientious, so teaching and research services, renowned for performance, the award is certainly outside. The department accepted the Ministry of Education 1993-94 University of Science and Technology Evaluation, Department of class for professional assessment with great Results (private HKUST Information Engineering Department, only two line First Class). In addition, the department is continuing the pursuit of quality and excellence in teaching, in addition to the efforts to implement the Ministry of Education’s Teaching Excellence program. It is also involved in the project in charge of the Chinese Society of Education, Engineering Education Accreditation, and in 1994-95 by the University Department of certification in 96 years by the Institute certification.  **Mission**  **Educational purpose**  The department is committed to IT engineering education and research, fostering innovative thinking, professional ability, dedication of friends and professional ethics literacy, community service groups, and establishing sustainable management of the environment.  **Teaching Goal**  •Cultivate professionals for the IT-related industries of engineering and information.  •Cultivate the ability of interdisciplinary cooperation and teamwork.  •Training with the personality traits international outlook and lifelong learning.  **Focus on the development direction of the Department of Service**  **Involved in engineering education accreditation and establishing mechanisms for continuous improvement of teaching.**  •Set the direction of development according to industry trends  •Emphasize research and development to encourage industry-university cooperation.  •Plan curriculum step by step, paying attention to students' abilities to implementation.  •Continuously improve teaching quality.  •Stay actively involved in academic activities to promote international academic exchanges  **Research and Development direction**  The faculty's research expertise includes digital signal processing, audio processing, biomedical information, multimedia information capture, multimedia security and protection, image processing, information security, e-learning, embedded systems, mobile computing, data mining and other information important fields. The department boasts ample funding, equipment complete novel, able to meet the required teachers and teaching and research. The department, according to the needs of teachers and industry expertise and through numerous meetings, chose the advantages of this system compared with the characteristics of the study subjects, set three research focus areas as: Interactive multimedia applications, Wisdom of life science and technology" and "Internet technology and applications." three research focus areas, as a key development direction of the department:  **Interactive multimedia applications**  1. Image and video processing: the scientific and technological progress century, the rapid popularization of digital images, audio video application requirements of the ardent, such as: Flickr , Picasa , Youtube and other websites are rising is proof. This field will focus on image and video processing technology and the practical application. In addition, the video image is also concerned at the relevant media and extending technologies. Since the rise of digital home, led to considerable opportunities, regardless of IT, consumer, communications, and other 3C industries are to progress in this direction. In this huge business opportunity, entertainment and information products shipments potential huge space for development, including entertainment products to DVD recorders, digital TV / STB, PMP and other digital audio and video products were well received.  2. Audio processing: The main focus in this area is on speech and music classes, compression encoding, and noise control. In speech mainly to resolve the re-synthesis approach to compression coding such as ITU standards. In music, mainly in the frequency domain and psychoacoustic considerations feelings for compression coding such as MPEG standard MP3 and AAC .  3. Multimedia Security : In recent years, with the rapid development of the Internet, the information obtained is more rapid and convenient, digital multimedia through the Internet made easy situation, accompanied by information on the creator or owner of the rights has been greatly threats, how to effectively prevent these violations of copyright issues, it is currently a major problem in digital multimedia applications on the Internet. The main purpose of digital multimedia security is to protect the image and integrity of digital multimedia declare real owner.  4. Multimedia Entertainment: The most popular department of the multimedia computer entertainment industry cultivates students' abilities for multimedia and game programming. In addition to the strength of the student programming, other areas of focus are related computer vision, computer graphics, image processing of, and guidance applied to 2D, 3D game design on the computer. The overall aim is to foster the development of skilled workers in the computer game programming industry, as well as to enhance talent and ability.  **Smart Life Technology**  1. AI : Artificial Intelligence, mainly in research on how to use the computer's capabilities to perform some would have to be done by humans in order to perform work, human intelligence will be computerized, so that the computer has to think, learn and problem-solving skills. Related applications include expert systems, robotics, natural language processing, machine vision, machine translation, speech recognition and machine learning.  2. Data Mining: Data Mining also known as the repository of knowledge discovery (Knowledge Discovery in Databases) . Refers to dig out from the database of potential, clear, and very useful information of the process, and presented in an easy to understand manner. Learn repository is the foundation for data mining and supplemented by a variety of different data structures and algorithms to achieve the process of knowledge discovery. Artificial intelligence and neural network technology are all common mining technology.  3. Medical News: Medical information is crosscutting combination of information technology and medical application of the industry. In major medical industries and institutions, have been combined with information technology related products and services to the medical information, such as electronic medical records management system, clinical diagnosis support systems, patient monitoring systems and automatic interpretation of medical imaging and diagnostic aid system, in the face of huge Under the medical service market, is bound to have a large demand for medical and information interdisciplinary talents. Both theory and teaching in the art and used to nurture issue across medicine, IT personnel in both areas, with the effective application of information technology capability in the field of medicine, in order to promote social well-being.  4. Embedded Systems: With the development of chip design and manufacturing technology and the Internet, many high-tech products emphasize the wisdom of nature, under the demands of multi-function network link, and requires a lot of embedded systems and technical personnel. In Jufan network equipment, digital audio system, mobile phone, PDA, digital cameras, vehicle information and control electronics, embedded systems are the foundation for their development, and therefore the field of embedded products have become an integral part of the relevant application. Through the creation and training related courses, the department will foster talented engineers for this industry.  **Internet Technology and Applications**  1. Internet Applications : Future Internet application technology will face the following situations and challenges, (1) broadband, wireless, mobile, IPv6 arrival, and high movement speed and other characteristics of the new generation networks; (2) heterogeneous domains roaming between, for example, 3G / GPRS and WLAN roaming; and (3) various computing capability (computing power) of the client device. Study of Internet applications including wired and wireless network of media access control and technology, data / voice /video / multimedia transmission, network resource assignment, service quality assurance methods, wireless /wired network bridging technology and Internet network Road Web2.0 applications.  2. Mobile Computing: The purpose of the focus is to teach students with field systems development capability in mobile devices and embedded systems. Therefore, students attending basic programming courses will receive three training courses, including: embedded systems programming, programming mobile devices, embedded driver design implementations. After attend these courses, students for employment or further studies will be competitive wireless technologies and embedded systems industries.  3. Information Security: information security courses offered, mainly in the "information security" as the core curriculum, extending the course was "Cryptography" (contains traditional and modern cryptography ). Practice Course part of a "network security" and emphasis on wireless environment "mobile device security", the popular e-commerce in recent years, also set up relevant safety courses. Technical courses partly open "hacker attack and defense technology," serve to help the students to existing common hacker attack and defense technology to have a preliminary understanding.  4. Database: The purpose of the course is to give students experience in the field and use a lot of distributed network systems for data storage. In order to allow students to learn database theory and operating practices, students attending basic programming courses will receive training in database systems and database applications design. After completion of these courses, students for employment or further studies will have database programming, web system design, software system development competitiveness of related industries.  **Outlet and Development**  Application of Information Technology of the times, led the electronic information industry by the early PC, progressed to the diversity of network applications currently use handheld mobile devices and digital content, making the information industry has become the main driving force for economic development; related demand for talent is quite eager, so students very broad way. The Department of multimedia applications, embedded system application and application-related signal processing technology as the main development features, in line with the current development trend of industry and academia. Therefore, this Master's graduates to continue their studies abroad whether or investment service industry, are the subject of much recognition.  **Faculty**   |  |  |  |  | | --- | --- | --- | --- | | Title | Name | Education Background | Research Interests | | Associate Professor and Vice-president for Academia-Industry Cooperation & Dean of Academic Affairs | **Hong-De Chang** | National Cheng Kung University / Electrical Engineering / PhD | Digital image processing, pattern recognition | | Professor and Director | **Narn-Yih Lee** | National Cheng Kung University / Computer Science and Information Engineering / PhD | Information security, network security, cryptography, advanced cryptography | | Associate Professor and Director of Career Development and Alumni Center | **Ding-Horng Chen** | National Cheng Kung University / Computer Science and Information Engineering / PhD | Image processing, computer vision, multimedia information retrieval, map information identification, industrial inspection, medical image processing, computer graphics, site planning and web programming | | Professor | **Shing-Lin Chang** | National Chung Hsing University / Applied Math / PhD | Numerical analysis, matrix computation, scientific computing, mathematical physics | | Associate Professor | **Rong-San Lin** | National Cheng Kung University / Electrical Engineering / PhD | Speech coding, audio signal processing, fast algorithms design, digital signal processing, familiar with the application of TI DSP TMS320C30 CPU familiar TI MSP430 16-bit RISC chip, single-chip microprocessor applications, embedded system design, watermarking technology in speech Signal Processing | | Associate Professor | **Chia-Nian Shyi** | National Cheng Kung University / Electrical Engineering / PhD | Electrical and electronic engineering, information engineering, machine vision, simulator systems, digital signal processing applications | | Associate Professor | **Chien-Chung Wu** | National Cheng Kung University / Electrical Engineering / PhD | Embedded system design, automotive embedded systems, Linux systems practice, the robot system design and application, PSOC chip integrated design, FPGA / CPLD chip design, LabVIEW graphical programming design, object-oriented programming, automated measurement system design, medical instrumentation systems integration, design and production of micro-sensors, micro-electromechanical sensor design | | Associate Professor | **Fu-Kun Chen** | National Cheng Kung University / Electrical Engineering / PhD | Iterative process (adaptive signal processing, neural networks, vector quantization), voice (Speech), Music (Audio) signal compression encoding, video (Video) signal compression coding, multimedia (Multimedia) data compression, digital signal processing fast algorithm design, adaptive signal processing | | Associate Professor | **Tz-Heng Hsu** | National Cheng Kung University / Computer Science and Information Engineering / PhD | Wireless sensor networks, multimedia transmission systems and communications, broadband Internet, mobile computing, peer computing | | Associate Professor | **Jiin-Chiou Cheng** | National Cheng Kung University / Electrical Engineering / PhD | Information security, cryptography, network security, image processing | | Associate Professor | **Tsai-Rong Chang** | National Cheng Kung University / Electrical Engineering / PhD | Neural networks, biomedical signal processing, image processing, computer graphics | | Associate Professor | **Shu-Chen Cheng** | National Cheng Kung University / Engineering Science / PhD | Artificial intelligence, image processing, e-learning, data mining, fuzzy theory, fractal theory, evolutionary computation, neural networks, Bioinformatics | | Assistant Professor | **Yu-Chiang Li** | National Chung Cheng University / Computer Science and Information Engineering / PhD | Data mining, Association rules, Utility mining, Image processing, Image data hiding, OLAP, Computional biology | | Assistant Professor | **Jui-Che Teng** | Missouri University of Science and Technology / Computer Science / PhD | Multimedia data acquisition, high-dimensional database indexes, parallel and distributed computing, neural networks, pattern recognition, Internet and Application | | Associate Professor | **Zong-Xian Yin** | National Cheng Kung University / Computer Science and Information Engineering / PhD | Artificial intelligence, machine learning, clustering analysis, bioinformatics, pattern recognition, neural network | | Assistant Professor | **Horng-Horng Lin** | National Chiao Tung University / Institute of Computer Science and Engineering  / PhD | Computer vision, pattern recognition, machine learning, image / video processing, robotics | | Assistant Professor | **Gwo-Jiun Horng** | National Cheng Kung University / Computer Science and Information Engineering / PhD | Mobile services and computing, Wireless communications and networks, Cyber-physical systems, Wireless cognitive systems | |