



## Introduction

The Institute of Computer Science and Information Engineering was established in August 1999 in response to an increased demand for focused research on CSIE-related topics and professional graduate education. The Institute offers postgraduate programs leading to degrees of Master of Science and Doctor of Philosophy. Two years later, the Department of Computer Science and Information Engineering was established in 2001 and has since launched two undergraduate programs offering two-year and four-year curricula respectively. Strong research groups exist in five major areas: computer graphics, audio/video and image processing, intelligent systems and machine learning, computer networks, cloud computing and information security, parallel and embedded systems. Specific research topics include image/video process, wireless communication and mobile computing, sensor networks, machine learning and data mining, virtual reality and digital archives, information security, fuzzy information systems, AI-based financial trading system, speech and audio processing, image processing and pattern recognition, and networked robotics.



## Faculty

23 full-time faculty members, including 9 professors, 4 associate professors, and 10 assistant professors. The following lists of the research expertise of our faculty.

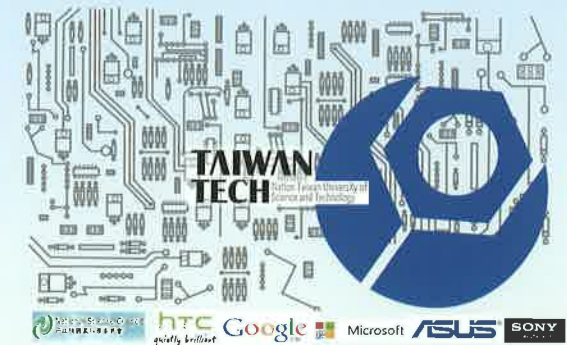
- + **Chyou-Hwa Chen**, Professor, Department Chair: overlay networking, network traffic management, multimedia communication, multicast transport and routing ad hoc wireless routing.
- + **Shyi-Ming Chen**, Distinguished Professor: fuzzy information systems, artificial intelligence, knowledge-based systems, database systems, intelligent information retrieval systems.
- + **Shin-Ming Cheng**, Assistant Professor: wireless communications, telecommunications, mobile networks, information security.

- + **Tai-Lin Chin**, Assistant Professor: sensor networks, wireless networks, and parallel processing.
- + **Ge-Ming Chiu**, Distinguished Professor: mobile computing and wireless networks, distributed Systems, wireless sensor networks, parallel computing, fault-tolerant computing.
- + **Kuo-Liang Chung**, Chair Professor: image and video processing, computer vision and pattern recognition, data compression and information security, and multimedia applications.
- + **Bi-Ru Dai**, Assistant Professor: data mining, stream data management, bioinformatics.
- + **Chin-Shyurng Fahn**, Associate Professor: image processing, pattern recognition, robot vision, computer graphics, virtual reality, intelligent computing.
- + **Huei-Wen Ferng**, Distinguished Professor: high-speed networks, wireless networks, mobile computing, mobile communication networks, voice over IP.
- + **Hung-Yan Gu**, Professor: speech signal processing, data compression, information hiding, computer music.
- + **Shi-Jinn Horng**, Distinguished Professor: parallel processing, multi-medium, mobile computing, VLSI design, Information security, bioinformatics.
- + **Tien-Ruey Hsiang**, Assistant Professor: computational geometry, wireless sensor networks, robotics.
- + **Jen-Wei Hsieh**, Assistant Professor: Flash-memory storage systems, real-time systems
- + **Yen-Tseng Hsu**, Professor: AI-based financial trading and decision system, patent practice.
- + **Kai-Lung Hua**, Assistant Professor: digital image, video processing, digital signal processing, telecommunications.
- + **Yuan-Shin Hwang**, Associate Professor: parallel processing and parallelizing compilers, compilation techniques for embedded systems, computer architecture, programming languages.
- + **Yu-Chi Lai**, Assistant Professor: computer graphics, computer animation, computer rendering, hardware rendering.
- + **Hahn-Ming Lee**, Distinguished Professor: web-based intelligent systems, neural networks, fuzzy Computing, artificial intelligence.
- + **Yuh-Jye Lee**, Associate Professor: data mining, optimization, machine learning, bioinformatics, virtual reality.
- + **Hsing-Kuo Pao**, Associate Professor: machine Learning, bioinformatics, computer Vision.
- + **Wei-Chung Teng**, Assistant Professor: networked robots, HCI on teleoperation systems, network communication protocols.
- + **Yi-Leh Wu**, Assistant Professor: database Systems, data mining, GIS systems, multimedia databases, image classification.
- + **Chih-Yuan Yao**, Assistant Professor: computer graphics, computer animation, mesh parameterization, remehing.



## Research Projects

We have several groups working on various research areas in computer science and information engineering, including computer networks, artificial intelligence, algorithms, audio and video processing, information security, multimedia, robotics, etc. The Department has cooperated with several government agencies and private sectors on various projects.



## Courses

The department offers a wide range of courses to provide professional training graduate students. A brief list of selected courses is as follows:

- Advanced Algorithms
- AI-based Financial Trading System
- Artificial Intelligence
- Bioinformatics
- Computational Geometry
- Computer Networks
- Computer Vision, Graphics, and Image Processing
- Data Compression
- Data Mining
- Grey Information System
- Machine Learning Theory and Applications
- Mobile Computing
- Multimedia Information Systems
- Sensor Networks: Theory and Applications
- Speech Signal Processing



## Graduate Programs

### Program Enrollment requirement Policies and procedures

Program	Enrollment requirement	Policies and procedures
Ph.D. degree	Finished courses of a related graduate program from an university or independent college	Term of study: 2 to 7 years Students must pass an oral examination and complete a minimum of 18 credits of graduate-level course work
Master's degree	Graduated from a related department of an university or independent college, optionally holding a bachelor degree, or qualified for equal academic ability.	Term of study: 1 to 4 years Students must pass an oral examination and complete of 24 credits of graduate-level course work.



## Financial Support

The department offers scholarships for teaching and research assistants. The government and the university also provide additional scholarships specifically for international students.

### Taiwan Scholarship

Qualified international graduate students will receive NT\$30,000 monthly stipend, although recipients will be responsible for tuition, insurance, accommodation, and other daily expenses. Students should contact the Taiwan Embassy in their home country directly for further application details.

### NTUST Scholarship

Qualified international graduate students will receive NT\$15,000 monthly stipend as Ph.D. students and NT\$10,000 monthly stipend as Master students. Recipient students will also have their tuition waived from the university, although they need to pay the insurance accommodation, and other expenses themselves.

Complete Information can be found at:  
<http://student.ntust.edu.tw/eng/student/activities/scholarships.htm>

**TAIWAN TECH**  
National Taiwan University of Science and Technology



## Department Contact

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## Department of Computer Science and Information Engineering

[http://www.csie.ntust.edu.tw/english\\_version/index.html](http://www.csie.ntust.edu.tw/english_version/index.html)



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