

電子工程系
Department of Electronic
Engineering

醫電工程與感測器實驗室
EME Lab.

醫電工程與感測器實驗室
EME Lab.



O: 綜科404
#2254

L: 綜科 406
#2253

李仁貴 特聘教授
Prof. REN-GUEY LEE

國立台灣大學電機博士
National Taiwan University

evans@ntut.edu.tw

<http://ar.ntut.edu.tw/lab/index.aspx?lab=1001>

■ 研究領域

醫學資訊、行動照護、無線感測器網路、行動電視、穿戴式醫療電子裝置

■ 近期研究主題

- 穿戴式裝置
- 健康監測系統
- 心音量測系統
- 情緒感知系統
- 團體心率監測系統
- 環境監控系統
- 跌倒偵測系統
- 無線感測網路之室內定位系統

■ Research Area

- Biomedical Informatics
- Mobile-Care
- Wireless Sensor Network
- Digital Video Broadcasting-Handhelds
- Wearable medical electronic devices

■ Recent Topics

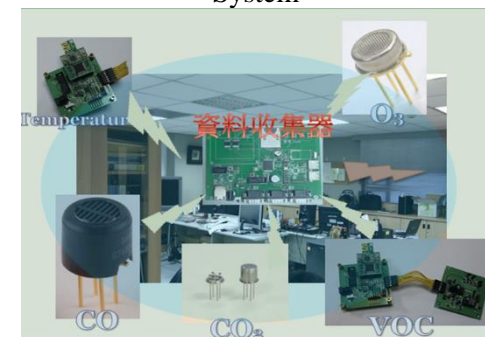
- Wearable Devices
- Health Monitoring System
- Heart Sound Measurement System
- Emotional Perception System
- Heart Rate Monitoring Group System
- Environmental Monitoring System
- Fall detection system
- Wireless Sensor Network Of Indoor Positioning Systems



穿戴式裝置-心律量測裝置
Wearable Devices-Heart Rate
Measuring Device



團體心律監測系統
Heart Rate Monitoring Group
System



環境監控系統
Environmental Monitoring System

電子工程系
Department of Electronic
Engineering

網路應用與生醫資訊
Applied Network and
Biomedical Information

網路應用實驗室
Applied Network Lab.



O: 綜科館601-1
#2261
L: 綜科館601-1
#2265

段裘慶 教授
Prof. Chiu-Ching Tuan

國立臺灣科技大學
Taiwan Tech, NTUST

cctuan@ntut.edu.tw

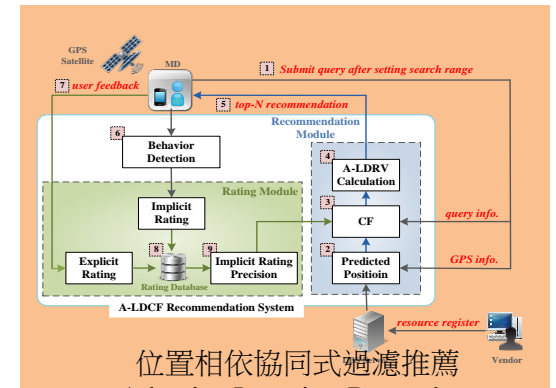
www.el.ntut.edu.tw/files/15-1044-5661,c2678-1.php

■ 研究領域
行動計算
無線傳感器網路
物聯網(IoT)應用
生醫資訊處理

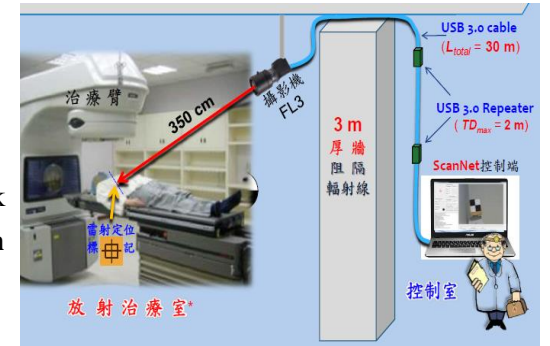
- 近期研究主題
- 位置相依物件推薦系統
 - 室內Wi-Fi定位與導覽系統
 - 無線傳感器網路事件排序
 - 無線傳感器網路資料容錯
 - 行動式醫療資訊App系統
 - 穿戴式復健輔具開發

■ Research Area
Mobile Computing
Wireless Sensor and Actor Network
Internet of Things, IoT, Application
Biomedical Information Processing

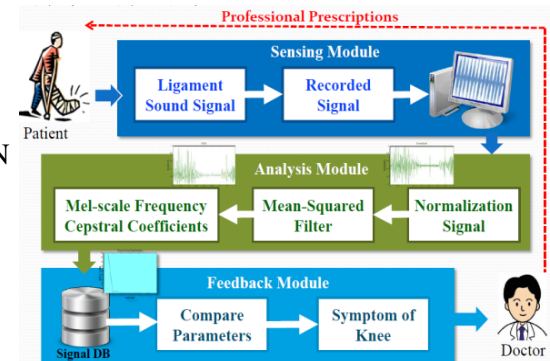
- Recent Topics
- LBS Recommendation System
 - Indoor Positioning & Navigation System Based-on Wi-Fi
 - Event Ordering in WSN
 - Sensing Fault Tolerance in WSN
 - Mobile Medical Information App System
 - Wearable Rehabilitation Device Development



位置相依協同式過濾推薦
Adaptive Location-Dependent
Collaborative Filtering Recommendation



放射治療中即時位移監控
Displacement Monitoring in Radiotherapy



韌帶聲音檢測系統架構
Knee Sound Signals for Ligament
Diagnosis

電子工程系
Department of Electronic
Engineering

多媒體系統實驗室
Multimedia System Lab.

多媒體系統實驗室
Multimedia System Lab.



O: 綜科 312-4
#2289

L: 綜科 406-1
#2232

黃士嘉 教授
Assoc. Prof. Shih-Chia Huang

國立台灣大學
National Taiwan University

schuang@ntut.edu.tw

<http://www.cc.ntut.edu.tw/~schuang/>

■ Biosketch

Shih-Chia Huang received the Ph.D. degree in electrical engineering from National Taiwan University, Taipei, Taiwan, in 2009. He is an Associate Professor with the Department of Electronic Engineering, National Taipei University of Technology, Taipei, and an International Adjunct Professor with the Business and Information Technology Department, University of Ontario Institute of Technology, Oshawa, ON, Canada.

He has authored more than 50 journal and conference papers. He holds more than 30 patents in the U.S., Europe, Taiwan, and China. His research interests include image and video coding, wireless video transmission, video surveillance, error resilience and concealment techniques, digital signal processing, cloud computing, mobile applications and systems, embedded processor design, and embedded software and hardware codesign.

■ Research Area

- Image and video coding
- Wireless video transmission
- Video surveillance
- Error resilience and concealment techniques
- Digital signal processing
- Cloud computing
- Mobile applications and systems
- Embedded processor design
- Embedded software and hardware codesign

■ Honors

- Associate Editor of Journal of Artificial Intelligence.
- Kwoh-Ting Li Young Researcher Award from the Taipei Chapter of the Association for Computing Machinery in 2011
- Dr. Shechtman Young Researcher Award from the National Taipei University of Technology in 2012.



影像除沙/霧系統
Image Dehaze System



智慧電視應用與開發
Applications in Smart TV



共乘系統
Carpool System

電子工程系
Department of Electronic
Engineering

嵌入式系統設計
Embedded system design

嵌入式系統實驗室
Embedded system Lab.



O: 綜科 308
#2238

譚巽言 副教授
Prof. Sun-yen Tan

國立臺北科技大學
National Taipei University of
technology

systan@ntut.edu.tw

[http://www.el.ntut.edu.tw/files/
15-1044-16272,c2678-1.php](http://www.el.ntut.edu.tw/files/15-1044-16272,c2678-1.php)

■ 研究領域
嵌入式系統設計
非同步邏輯技術
VLSI系統設計
微處理機設計

■ 近期研究主題

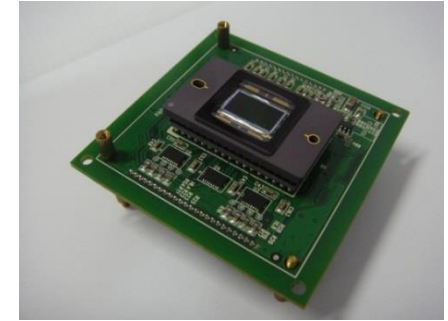
- 高解析度攝影機設計
- OCT攝影機設計
- 影像處理
- 類比前端電路

■ Research Area

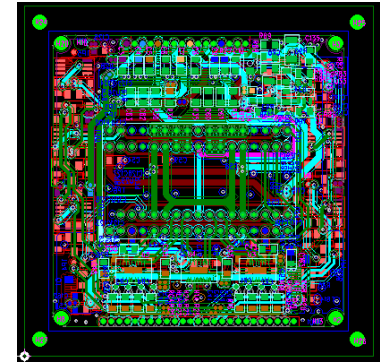
Embedded system design
Asynchronous logic technology
VLSI system design
Microprocessor design

■ Recent Topics

- High resolution camera design
- OCT camera design
- Image processing
- Analog front-end circuit



類比前端電路
Analog front-end



感應器電路板
sensor board



量測儀器
Measuring instrument

電子工程系
Department of Electronic
Engineering

無線感控網路設計
Wireless Sensor/Actor
Networks Design

情境感知應用實驗室
Context-Aware Applications
Lab.



O: 綜科 207-1
#2227

L: 綜科 107-2
#2290

蕭榮修 副教授
Assoc. Prof. Rong-Shue Hsiao

國立臺北科技大學
National Taipei University of
Technology

rshsiao@ntut.edu.tw

<http://www.cc.ntut.edu.tw/~rshsiao/>

■ 研究領域
無線感控網路
情境感知系統
智慧整合感控系統
醫療照護系統
嵌入式應用系統

■ 近期研究主題

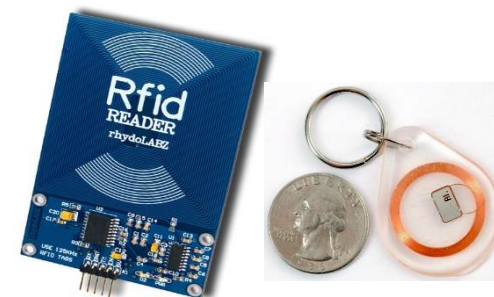
- 免持裝置室內定位
- RFID室內定位
- 感測資料融合
- 特徵萃取與分類
- 工業無線感測網路

■ Research Area

Wireless Sensor and Actor Networks
Context-Aware Systems
Cyber-Physical Systems
Healthcare Systems
Embedded Systems

■ Recent Topics

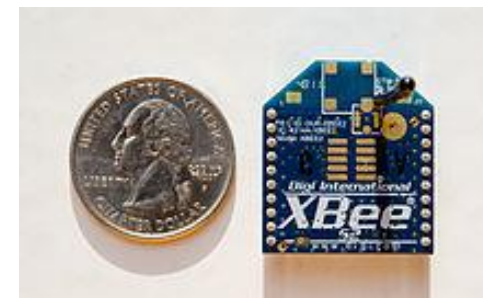
- Device free indoor localization
- RFID indoor localization
- Sensory data fusion
- Feature extraction and classification
- Industrial wireless sensor networks



RFID閱讀器與標籤
RFID reader and Tag



無線感測器模組
Tmote wireless sensor module



ZigBee無線收發模組
ZigBee/802.15.4 RF Modules

電子工程系
Department of Electronic
Engineering

網路性能分析
Analysis of Network
Performance

網路性能分析實驗室
Network Performance Analysis
Lab.



O: 綜科 201
#2221

L: 綜科 109-1
#2282

陳仲萍 副教授
Assoc. Prof. Chung-Ping Chen

天主教輔仁大學
Fu Jen Catholic University

cpchen@ntut.edu.tw

[http://www.cc.ntut.edu.tw/~cpc
hen/](http://www.cc.ntut.edu.tw/~cpc
hen/)

■ 研究領域 應用排隊理論分析網路
叢級伺服器等效佇列模組分析
VLSI設計與模擬
電子電路設計與模擬

■ 近期研究主題

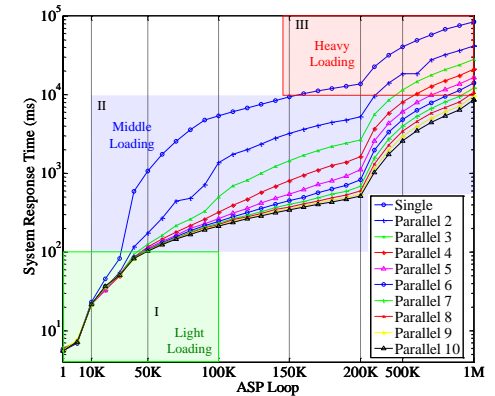
- 網路性能分析
- 高功率方波產生器
- 太陽能高效集光系統

■ Research Area

Application of queuing theory analysis network
Analysis of an Equivalent Queuing for clustered server
VLSI Design and Simulation
Electronic circuit design and simulation

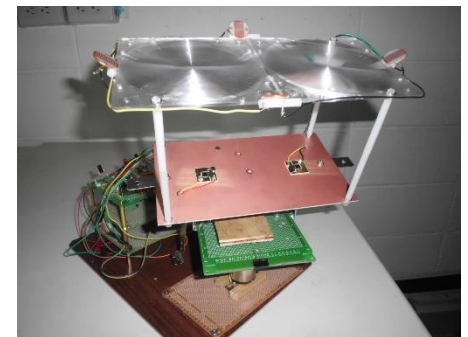
■ Recent Topics

- Network performance analysis
- High power square wave generator
- Auto concentrating solar power system



十台伺服器並聯的系統反應時間
比效

The system response time is in
various regions of the service rates



自動導向太陽能高效集光系統
Auto concentrating solar power
system

電子工程系
Department of Electronic
Engineering

訊號處理暨智慧電子設計
Signal Processing and
Intelligent Electronics Design

訊號處理暨智慧電子實驗室
Signal Processing and
Intelligent Electronics Lab.



O: 綜科 311
#2242

L: 綜科 208
#2291

高立人 副教授
Assoc. Prof. Lih-Jen Kau

國立交通大學
National Chiao-Tung University

ljkau@ntut.edu.tw

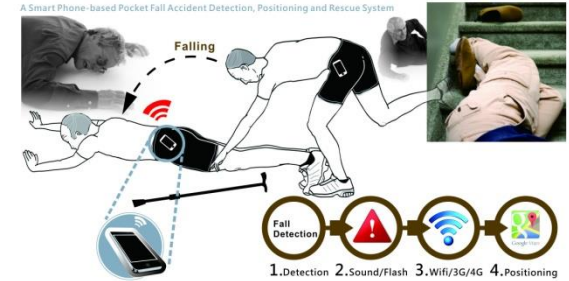
<http://www.ntut.edu.tw/~ljkau>

研究領域

訊號壓縮
影像/視訊處理與編解碼
健康照護
系統整合與工業自動化

近期研究主題

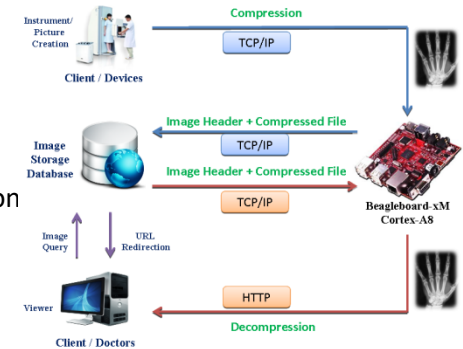
- 視訊編碼之快速模式決策
- 多干擾下之視訊監控系統
- 基於雲端運算之影像處理
- 跌倒預警與偵測系統
- 體感偵測與互動



基於智慧型行動裝置之口袋型跌倒偵測系統
Smart phone-based pocket fall detection system

Research Area

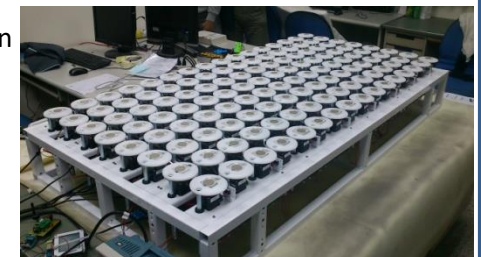
Signal Compression
Image/Video processing and coding
Healthcare system design
System integration and industry automation



基於雲端運算之影像編處理系統
Cloud network-based image
processing system

Recent Topics

- Fast mode decision for video coding
- Visual surveillance system design
- Cloud network-based image systems
- Fall detection system with early warning
- Somatosensory detection and interaction

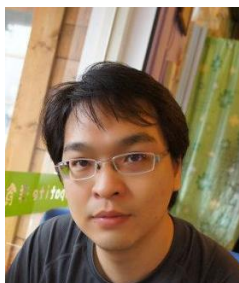


主動式支撐床墊
Auto-contouring mattress

電子工程系 Department of Electronic Engineering

物聯網生態系統 (IoT Ecosystem)

網路暨嵌入式系統實驗室 Networked & Embedded Systems Lab.



O: 綜科 207-2
#2288

L: 綜科 409
#2283

李昭賢 副教授
Assist. Prof. Chao-Hsien Lee

國立成功大學
National Cheng Kung University

chlee@ntut.edu.tw

<http://www.cc.ntut.edu.tw/~chlee>

■ 研究領域

普適計算, 遠距健康照護穿戴式/嵌入式系統, P2P/Web多媒體串流服務, 無線/行動/感測/軟體定義軟路, 雲端/霧端計算

■ 近期研究主題

- 輕量化物聯網協定
- 銀髮族/失智症專屬之穿戴式裝置
- 適合智慧型裝置以P2P為基礎MPEG-DASH串流服務
- 結合雲端儲存之P2P檔案分享服務
- 基於SQL與NoSQL雙向資料轉移機制



醫療地圖
(Medical Map)



失智症篩檢測驗
(MMSE App)



銀髮族/失智症專用
(1)戶外運動紀錄裝置與(2)行走安全導引裝置(Exercise Tracking and Outdoor Safety Assistant Devices for Elders/Dementia)

■ Research Area

Ubiquitous Computing, Tele-Healthcare Wearable/Embedded System, P2P/Web Multimedia Streaming Services, Wireless/Mobile/Sensor/Software-defined Networks, Cloud/Fog Computing

■ Recent Topics

- Light-weighted Internet of Things Protocols
- Wearable Devices for Elders with/without Dementia
- P2P based MPEG-DASH Streaming for Smart Devices
- P2P File Sharing over Cloud Storages
- Bi-directional Data Migration Mechanism between SQL and NoSQL