曾意儒 (Yi-Ju Tseng)

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研究專長

研究專長: 健康資料整合分析，臨床決策支援系統，感染監測，預測模型

核心技能: 巨資料分析，資料科學，資料探勘，R/SPSS 統計應用，程式設計

學歷

國立臺灣大學 生醫電子與資訊學研究所

工學博士 （畢業日期：2013/07）

指導教授: 賴飛羆教授 與 陳宜君教授

論文題目: 基於規則、族群與個體分析的醫療相關感染網路監測系統

國立臺灣大學 醫學檢驗暨生物技術學系

理學學士 （畢業日期： 2008/06）

經歷

Computational Health Informatics Program (CHIP), Boston Children's Hospital/ Harvard Medical School 波士頓 美國

Postdoctoral Research Fellow（2014/02~迄今）

指導教授: Dr. Kenneth D. Mandl

研究成果: 使用保險資料定義 Lyme disease 案例，發現 incidence 異常上升，並發現異常治療情形。開發 Chronic Lyme disease 預測模型；分析疾病篩檢政策、治療指引與保險給付整合的成本效益

國立臺灣大學附設醫院資訊室

資訊工程師（2008/02~2014/05）

部門主管: 尚榮基主任

研究成果: 設計與實作感染控制決策支援系統，截至目前為仍為臺大醫院感染控制中心所使用，並成功拓展至台大醫院雲林分院與金山分院。微生物監測子系統系統獲得 2013 年智慧醫院優秀案例標章

International Internship Program, 國立情報學研究所 National Information Institute, 東京 日本

Research Student（2013/01~2013/05）

指導教授: Dr. Ryutaro Ichise 市瀬 龍太郎

研究成果: 發展念珠菌菌血症預測模型，協助醫師提早診斷

國立臺灣大學醫事檢驗暨生物技術學系

網頁管理員（2008/08~2013/12）

部門主管: 鄧麗珍主任

成果: 幫助單位獲得臺大杜鵑花節院長獎

Research Collaboratory, IBM Taiwan Corporation (IBM Watson)

IT Specialist Intern （2011/06~2011/12）

部門主管: Dr. Sreeram Ramakrishnan

研究成果: 設計且實作一系統可成功將各醫療標準編碼轉為 SNOMED-CT，以 OWL 呈現

著作目錄

期刊論文

1. **Tseng YJ**, Wu JH, Lin HC, Chen MY, Ping XO, Sun CC, Shang RJ, Sheng WH, Chen YC, Lai F, Chang SC. Development and Evaluation of a Web-Based, Hospital-Wide Healthcare-Associated Bloodstream Infection Surveillance and Classification System. JMIR Med Inform 2015. (Under revision)

2. **Tseng YJ**, Cami A, Goldmann DA, DeMaria A Jr., Mandl KD. Incidence and Patterns of Extended-Course Antibiotic Therapy in Patients Evaluated for Lyme Disease. Clin Infect Dis 2015. (In press) [IF=8.886 (SCI); INFECTIOUS DISEASES (2/78; 2%)]

3. **Tseng YJ**, Cami A, Goldmann DA, DeMaria A Jr., Mandl KD. Using Nation-wide Health Insurance Claims Data to Augment Lyme Disease Surveillance. Vector Borne Zoonotic Dis 2015. (In press) [IF=2.298 (SCI); PUBLIC, ENVIRONMENT & OCCUPATIONAL HEALTH (52/162; 32%)]

4. Ping XO, **Tseng YJ***, Lin YP, Chiu HJ, Lai F, Liang JD, Huang GT, Yang PM. A Multiple Measurements Case-based Reasoning Method for Predicting Recurrent Status of Liver Cancer Patients. Computers in Industry 2015; 69:12-21 [IF=1.287 (SCI); COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIONS (56/102; 54%)] (**Corresponding author)

5. **Tseng YJ**, Ping XO, Liang JD, Yang PM, Huang GT, Lai F. Multiple Time Series Clinical Data Processing for Classification with Merging Algorithm and Statistical Measures. IEEE Journal of Biomedical and Health Informatics 2015; 15(3):1036-43 [IF=1.440 (SCI); COMPUTER SCIENCE, INFORMATION SYSTEMS (47/139; 33%)]

6. Liang JD, Ping XO, **Tseng YJ**, Huang GT, Lai F, Yang PM. Recurrence Predictive Models for Patients with Hepatocellular Carcinoma after Radiofrequency Ablation Using Support Vector Machines with Feature Selection Methods. Computer Methods and Programs in Biomedicine 2014;117(3):425-34 [IF=1.897 (SCI); COMPUTER SCIENCE, THEORY & METHODS (15/102; 14%)]

7. Su WT, Ping XO, **Tseng YJ**, Lai F. Multiple Time Series Data Processing for Classification with Period Merging Algorithm. Procedia Computer Science 2014;37:301-8.

8. 林慧姬;**曾意儒**;陳明源盛望徽;陳宜君;張上淳. 多重抗藥性菌株資訊自動化監測與應用. 感染控制雜誌. 23 卷 6 期 (2013/12) , 290-299

9. Ping XO, Chung Y, **Tseng YJ***, Liang JD, Yang PM, Huang GT, Lai F. A Web-Based Data Querying Tool Based on Ontology-Driven Methodology and Flowchart-Based Model. JMIR Med Inform. 2013; 1(1):e2 (**Corresponding author)

10. Chen WH, Hsieh SL, Hsu KP, Chen HP, Su XY, **Tseng YJ**, Chien YH, Hwu WL, Lai F. Web-Based Newborn Screening System for Metabolic Diseases: Machine Learning Versus Clinicians. J Med Internet Res. 2013;15(5):e98 [IF=3.428 (SCI); HEALTH CARE SCIENCES & SERVICES (9/89; 9%)]

11. **Tseng YJ**, Wu JH, Lin HC, Chiu HJ, Huang BC, Shang RJ, Chen MY, Chen WH, Chen HT, Lai F, Chen YC. Rule-based Healthcare-associated Bloodstream Infection Classification and Surveillance System. Stud Health Technol Inform. 2013;186:145-9.

12. Ping XO, **Tseng YJ**, Chung Y, Wu WL, Hsu CW, Yang PM, Huang GT, Lai F, Liang JD. Information Extraction for Tracking Liver Cancer Patients' Statuses: from Mixture of Clinical Narrative Report Types. Telemed E-health. 2013;19(9):704-10. [IF=1.668 (SCI); HEALTH CARE SCIENCES & SERVICES (46/89; 51%)]

13. **Tseng YJ**, Wu JH, Ping XO, Lin HC, Chen YY, Shang RJ, Chen MY, Lai F, Chen YC. A Web-Based Multidrug-Resistant Organisms Surveillance and Outbreak Detection System with Rule-Based Classification and Clustering. J Med Internet Res, 2012;14(5):e131. [IF=3.428 (SCI); HEALTH CARE SCIENCES & SERVICES (9/89; 9%)]

14. **曾意儒**;陳宜君;林慧姬;孫春轉;陳明源;尚榮基;賴飛羆. 以電腦輔助醫療相關感染監測與感染管制之實例探討. 感染控制雜誌. 22 卷 5 期 (2012/10) , 219-226

15. Wu ZY, **Tseng YJ**, Chung Y, Chen YC, Lai F. A Reliable User Authentication and Key Agreement Scheme for Web-Based Hospital-Acquired Infection Surveillance Information System. J Med Syst. 2012;36(4):2547-55. [IF=2.213 (SCI); MEDICAL INFORMATICS (7/24; 27%)]

研討會論文

1. **Tseng YJ**, Cami A, Goldmann DA, DeMaria A Jr., Mandl KD. Incidence and Patterns of Extended-Course Antibiotic Therapy in Patients Evaluated for Lyme Disease. The 9th Dr. M. Judah Folkman Research Day; 2015 May 12; Boston, MA, USA, May, 2015

2. **Tseng YJ**, Ichise R, Huang BC, Lin HC, Chen MY, Shang RJ, Sheng WH, Chen YC*, Lai F and Chang SC. Validation and Comparison of A Candidemia Prediction Models: a case-control study. The 7th International Congress of Asia Pacific Society of Infection Control; 2015 Mar. 26-9; Taipei, Taiwan, Mar, 2015.

3. **Tseng YJ**, Huang BC, Lin HC, Chen MY, Shang RJ, Sheng WH, Chen YC*, Lai F and Chang SC. Development and Evaluation of A Hospital-wide Healthcare-associated Surgical Site Infection Detection Algorithm. The 7th International Congress of Asia Pacific Society of Infection Control; 2015 Mar. 26-9; Taipei, Taiwan, Mar, 2015.

4. Ping XO, **Tseng YJ**, Liang JD, Huang GT, Yang PM, Lai F. Missing Value Imputation on Multiple Measurements for Prediction of Liver Cancer Recurrence: A Comparative Study. International Computer Symposium 2014 Workshop on Healthcare and Bioinformatics; 2014 Dec 12-4; Taichung, Taiwan, Dec, 2014 (EI)

5. Huang BC, **Tseng YJ**, Ho TW, Chen YC, Lin HC, Lai F. A Healthcare-associated Surgical Site Infection Surveillance and Decision Support System. The 2014 Biomedical Engineering International Conference (BMEiCON 2014); 2014 Nov. 26-8; Fukuoka, Japan, Nov, 2014 (EI)

6. Ping XO, Lai F, **Tseng YJ**, Liang JD, Huang GT, Yang PM. Evaluation of Imputation Methods for Missing Data and Their Effect on the Reliability of Predictive Models. The Sixth International Conference on Bioinformatics, Biocomputational Systems and Biotechnologies (BIOTECHNO 2014); 2014 Apr 20-4; Chamonix, France, Apr, 2014.

7. Chen WH, Chen HP, **Tseng YJ**, Hsu KP, Hsieh SL, Chien YH, Hwu WL, Lai F, Newborn Screening for Phenylketonuria: Machine Learning vs Clinicians. The 2012 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining; 2012 Aug 27-8; Istanbul, Turkey, Aug, 2012. (EI)

8. **Tseng YJ**, Lai F, Lin PC, Shen CP, Kao JH, Wu JM, Liu ST, Zhou W, Jamleh HO, Chen CC. Telecare with Integrated Health Portal and Smart Phones. Medicine 2.0'12; 2012 15-6 Sep; Boston, MA, USA, Sep, 2012.

9. **Tseng YJ**, Lee S YF, Ping XO, Chang H, Lai F. Describing Electronic Medical Record by Semantic Web Technology. The Second AMA-IEEE Medical Technology Conference on Healthcare; 2011 Oct. 16-8; Boston, MA, USA, Oct, 2011.

10. Ping XO, Liang JD, **Tseng YJ**, Yang PM, Huang GT, Lai F. The Methodology for Handling Missing Data during Development of Predictive Model. The Second AMA-IEEE Medical Technology Conference on Healthcare; 2011 Oct 16-8; Boston, MA, USA, Oct, 2011.

11. Hsu CW, Ping XO, Liang JD, **Tseng YJ**, Wu YL, Yang PM, Huang GT, Chung Y, Lai F. A CBR-Based Method for Retrieving Similar Patients from Case Base. The Second AMA-IEEE Medical Technology Conference on Healthcare; 2011 Oct. 16-8; Boston, MA, USA, Oct, 2011.

12. Wu YL, Ping XO, Liang JD, **Tseng YJ**, Hsu CW, Yang PM, Huang GT, Lai F. A Method for Identifying Confidence Level of the Extracted Results from Medical Narrative Reports: A Case Study Focus on the Patient with Liver Cancer. The Second AMA-IEEE Medical Technology Conference on Healthcare; 2011 Oct. 16-8; Boston, MA, USA, Oct, 2011.

13. **Tseng YJ**, Chen YC, Lin HC, Wu JH, Chen MY, Lai F. A web-based hospital-acquired infection surveillance information system. Information Technology and Applications in Biomedicine (ITAB), 2010 10th IEEE International Conference on; 2010 3-5 Nov; Corfu, Greece. 2010. (EI)
14. Chen CH, Ping XO, Wang ZJ, Hsieh SL, Chen LC, **Tseng YJ**, Hsu CW, Lai F. The keyword-based and semantic-driven data matching approach for assisting structuralizing the textual clinical documents. 3rd International Conference on Biomedical Engineering and Informatics (BMEI); 2010 Oct 16-8; Yantia, China, Oct, 2010. (EI)
15. Ping XO, Lai MS, Tan CT, Liang JD, Lee HC, Chen CH, **Tseng YJ**, Wang ZJ, Lai F. An infrastructure for clinical data extraction, medical knowledge and mining services sharing. The First AMA-IEEE Medical Technology Conference on Individualized Healthcare; 2010 Mar 21-3 ; Washington D.C., USA, Mar. 2010.

技能與證照

- 熟悉 Java, C#, Python, Javascript, ASP.NET, AJAX, SQL, HTML, CSS 等
- 熟悉 SPSS、R 等統計應用
- 電子病歷資料處理、整合與標準化，醫療保險資料分析
- 大型醫療資訊系統、Android 手機應用程式與網路程式開發
- 考試院 醫事檢驗師證書，醫事檢驗師 高考及格
- 語言：中文母語，英文流利（TOEIC: 925, Speaking: 180, Writing: 150）

獲獎與活動經驗

- Massachusetts Department of Public Health 補助博士後研究（2015）
- 科技部補助赴國外博士後研究（2014）
- 智慧醫院優秀案例標章（2013，開發系統獲獎）
- 中華民國資訊協會卓鑫淼資訊學生領袖獎（2012）
- 國立臺灣大學生醫電子與資訊學研究所 學生傑出研究獎（2012）
- 國立臺灣大學醫學檢驗暨生物技術學系五十周年系慶 副總召集人（2006）
- 國立臺灣大學體育校隊聯合送舊 總召集人（2006）
- 國立臺灣大學跆拳道校隊副隊長（2005）

推薦人

1. Kenneth D. Mandl, MD, MPH
   Professor at Department of Biomedical Informatics, Harvard Medical School

2. 陳宜君醫師/博士
   國立臺灣大學醫學院內科教授

3. 賴飛羆博士
   國立臺灣大學生醫電資所/資訊工程系教授