

# 專業·務實·創新



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# 吳進結

# Chin-Chieh Wu



## 學歷

## 經歷



學士

國立彰化師範大學  
數學系

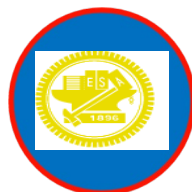
1996-2000



碩士

國立交通大學  
統計學研究所

2000-2002



博士

國立交通大學  
統計學研究所

2002-2013



博士後研究員  
基隆長庚醫院  
急診醫學科

2013-2017



博士後研究員  
國立中央大學  
資訊工程學系

2018-2019



博士後研究員  
基隆長庚醫院  
急診醫學科

2019-present

# Research Interests

The background of the slide is a photograph of a wooden desk. In the top right corner, there is a laptop with a blue keyboard. In the center of the desk, a pair of black-rimmed glasses lies horizontally. In the bottom right corner, there is a white cup filled with dark coffee. The top of the slide is covered by a solid blue horizontal band.

**Statistics**

**Mathematics**

**Biostatistics**

**Latent class analysis**

**Bayesian analysis**

**Queueing theory**

**Systematic Review and Meta-analysis of Diagnostic studies**

**Machine Learning**



# Skills

01

The R Project for Statistical Computing

R

02

Stata

STATA®

03

Python

python™

04

SAS-EG

sas

05

Shiny App

R Studio®



# Publications



# Publications (2015)

Pearn, W. L., **Chin-Chieh Wu**, and Wu, C. H. Estimating process capability index Cpk: classical approach versus Bayesian approach. *Journal of Statistical Computation & Simulation*. 2015: 1-15.

**Chin-Chieh Wu**, Shiau, J. H., Pearn, W. L., and Hung, H. N. A Bayesian approach for group supplier selection based on the popular process capability index Cpk. *Journal of Quality Technology and Quantitative Management*, Volume 13, 2016 - [Issue 2, 109-123](#).

Chou HL, Han ST, Yeh CF, Tzeng IS, Hsieh TH, **Chin-Chieh Wu**, Kuan JT, Chen KF\*. Systemic inflammatory response syndrome is more associated with bacteremia in elderly patients with suspected sepsis in emergency departments. *Medicine (Baltimore)*. 2016 Dec;95(49):e5634.

Kuan-Fu Chen, Chung-Hsien Chao, Jing-Yi Jiang, Hsueh-Wen Yu, Yu-Hsiang Meng, Wei-Chen Tang, and **Chin-Chieh Wu\***. Diagnostic Accuracy of Lipopolysaccharide-Binding Protein as Biomarker for Sepsis in Adult Patients: A Systematic Review and Meta-analysis. *PLOS One*. 2016 Apr 7; 11(4): e0153188.



# Publications (2016)

Chun-Kuei Chen, Shen-Che Lin, **Chin-Chieh Wu**, Li-Min Chen, I-Shiang Tzeng, and Kuan-Fu Chen. STARD-compliant article: The utility of red cell distribution width to predict mortality for septic patients visiting the emergency department. *Medicine (Baltimore)*. 2016 Jun; 95(24): e3692.

I-Shiang Tzeng, Su-Hsun Liu, Kuan-Fu Chen, **Chin-Chieh Wu**, and Jih-Chang Chen. Impact of performance grading on annual numbers of acute myocardial infarction-associated emergency department visits in Taiwan: results of segmented regression analysis. *Medicine (Baltimore)*. 2016 Jun; 95(24): e3692.

Chih-Yi Hsu, Su-Hsun Liu, Chung-Hsien Chaou, Yi-Lin Chan, Tsung-Cheng Tsai, Li-Min Chen, **Chin-Chieh Wu**, and Kuan-Fu Chen. STROBE-compliant article: Blood Transfusions within the First 24 Hours of Hospitalization Did Not Impact Mortality Among Patients with Severe Sepsis. *Medicine (Baltimore)*. 2016 Jan; 95(4); e2601.

Yung-Kuan Tso, Mu-Shien Lee, Kuan-Fu Chen, Cheng-Hui Lin, Kai-Feng Sung, **Chin-Chieh Wu**. Double-balloon enteroscopy- assisted endoscopic retrograde cholangiography for Roux-en-Y reconstruction patients with papilla of Vater or bilioenteric anastomosis. *Scandinavian Journal of Gastroenterology*. 2016 Jan; 51(1): 95-102.





# Publications (2017)

**Chin-Chieh Wu**, Hao-Min Lan, Chung-Hsien Chaou, Shih-Tsung Han, Chun-Fu Yeh, Su-Hsun Liu, Chih-Huang Li, and Kuan-Fu Chen. Comparison of Diagnostic Accuracy in Sepsis between Presepsin (sCD14), Procalcitonin and C-reactive protein: a Systematic Review and Meta-analysis. *Annals of Intensive Care*, 2017, 7:91.

Hsiao-Yun Chao, Sheng-Che Lin, Chun-Kuei Chen, Peng-Hui Liu, Jih-Chang Chen, Yi-Lin Chan, **Chin-Chieh Wu**, and Kuan-Fu Chen. Association of in-hospital mortality and dysglycemia in septic patients. *PLOS ONE*. 2017 Jan 20;12(1):e0170408.

YL Chan, ST Han, CH Li, **Chin-Chieh Wu**, KF Chen. Transfusion of Red Blood Cells to Patients with Sepsis. *International Journal of Molecular Sciences*, 2017, 18(9), 1946.

Kuan-Fu Chen, Su-Hsun Liu, Chih-Huang Li, **Chin-Chieh Wu**, Chung-Hsien Chao, I-Shiang Tzeng, Yu-Hsiang Hsieh, Shih-Tsung Han, and Yi-Lin Chan. Development and Validation of a Parsimonious and Pragmatic CHARM Score to Predict Mortality in Patients with Suspected Sepsis. *Am J Emerg Med*. 2017 Nov 3. pii: S0735-6757(16)30801-4.





# Publications (2018)

I-Shiang Tzeng, CY Ng, JY Chen, LS Chen, **Chin-Chieh Wu**. Using weighted regression model for estimating cohort effect in age-period contingency table data. *Oncotarget* 9 (28), 19826.



# Publications (2019)

CC Lin, **Chin-Chieh Wu**, CD Chen, KF Chen. Could we employ the queueing theory to improve efficiency during future mass causality incidents? *Scandinavian journal of trauma, resuscitation and emergency medicine* 27 (1), 41.

CF Yeh, **Chin-Chieh Wu**, SH Liu, KF Chen. Comparison of the accuracy of neutrophil CD64, procalcitonin, and C-reactive protein for sepsis identification: a systematic review and meta-analysis. *Annals of intensive care* 9 (1), 5.

HM Lan, **Chin-Chieh Wu**, SH Liu, CH Li, YK Tu, KF Chen. Biomarkers in Diagnosis of Sepsis and Infection: A Systematic Review and Bayesian Network Meta-Analysis. *Available at SSRN 3463303*.

KF Chen, MY Tsai, **Chin-Chieh Wu**, ST Han. Effectiveness of treatments and diagnostic tools and declining mortality in patients with severe sepsis: a 12-year population-based cohort study. *Journal of Intensive Care Medicine*, 0885066619827270.



# Publications (2020)

HM Lan, **Chin-Chieh Wu**, SH Liu, CH Li, YK Tu, KF Chen. Biomarkers in Diagnosis of Sepsis and Systemic Infection in Adult Patients: A Systematic Review and Bayesian Network Meta-Analysis. Available at SSRN 3532553.

Chu-Ting Chen, Ling-Yin Chang, Ching-Wei Chuang, Shih-Ching Wang, Ming-Chang Kao, I-Shiang Tzeng, Ko-Lin Kuo, **Chin-Chieh Wu**, Pei-Shan Tsai, Chun-Jen Huang. Optimal measuring timing of cystatin C for early detection of contrast-induced acute kidney injury: A systematic review and meta-analysis. *Toxicology Letters* 318, 65-73.



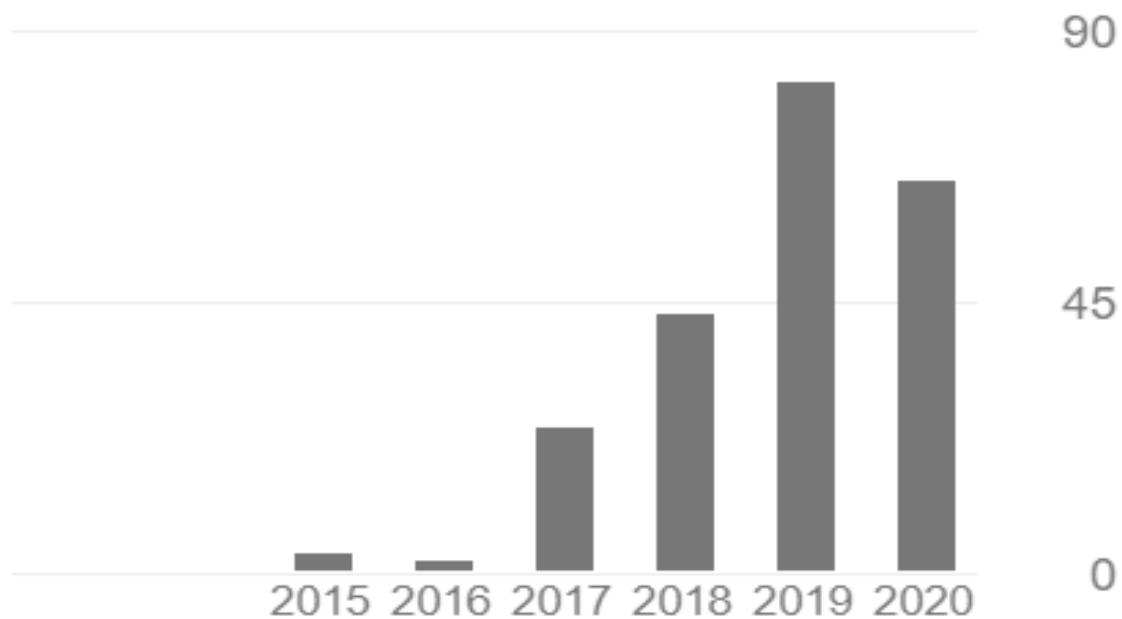


# Publications



## 引用次數

	全部	自 2015 年
引文	223	221
H 指數	9	9
i10 指數	8	8



01

# Shiny app (paper to application)

## Predict in-hospital Mortality by CHARM Score

Predict In-hospital Mortality by CHARM score in Patients with Suspected Sepsis

Please fill the below details

**noChills (absence of Chills)**

☒ No ☐ Yes

**Hypothermia( temperature < 36 degrees Celsius)**

☒ No ☐ Yes

**Anemia (RBC counts < 4 million per uL)**

☒ No ☐ Yes

**RDW (RDW > 14.5%)**

☒ No ☐ Yes

**Malignancy (History of malignancy)**

☒ No ☐ Yes

Predicted in-hospital mortality (%):

0.36

[Click here to see the reference](#)

Produced by Dr.Chin-Chieh Wu

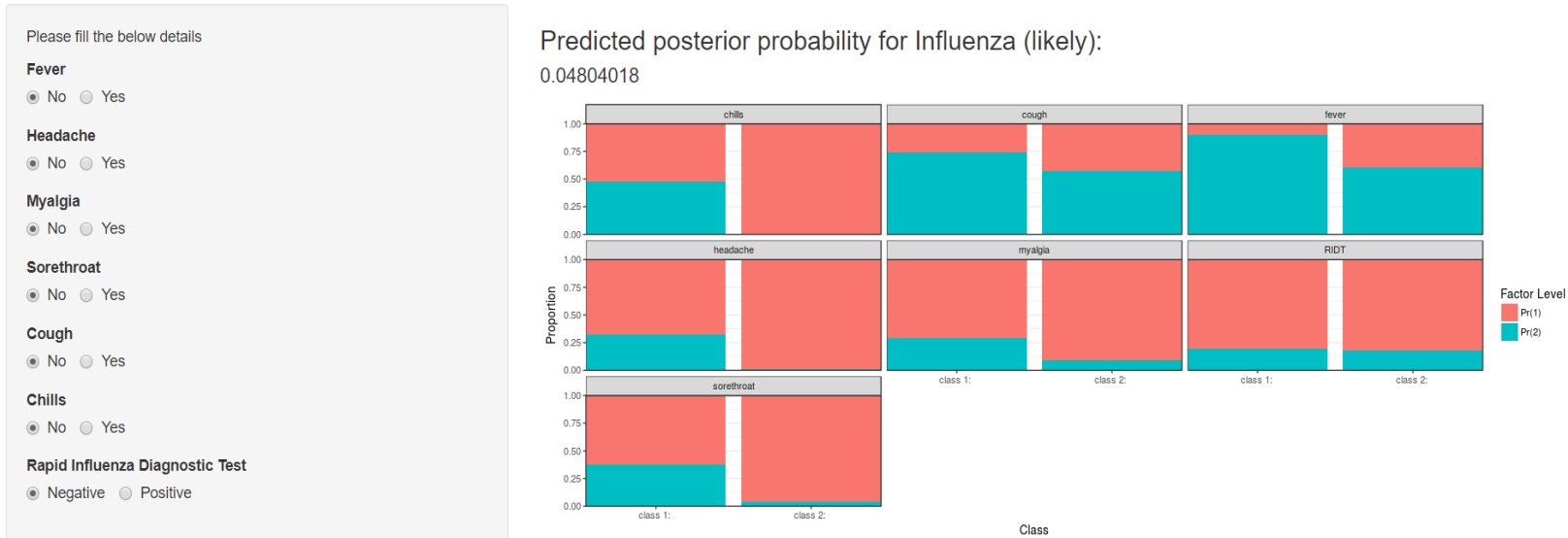


02

# Shiny app (paper to application)

## Predicted how likely influenza

Predicted how likely influenza by a latent class model



[Click Here to see National and Regional Level Outpatient Illness and Viral Surveillance](#)

Welcome to refer (TEL: 403-3531)

Produced by Dr.Chin-Chieh Wu





03

# Shiny app (paper to application)

## Predicting influenza infection with symptoms

Predicting influenza infection with symptoms by support vector machine algorithm

Please fill the below details!

**nasalswab**

☒ Negative ☐ Positive

**chestpain**

☒ Negative ☐ Positive

**rhinorrhea**

☒ No ☐ Yes

**sorethroat**

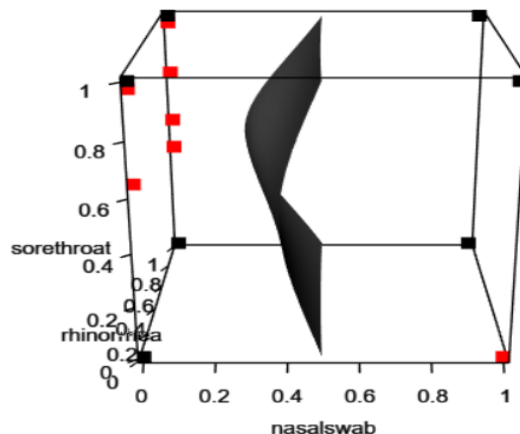
☒ No ☐ Yes

**shortnessbreath**

☒ No ☐ Yes

Produced by Chin-Chieh Wu

Predicted probability of how likely influenza (%):  
2.158161



04

# Shiny app (paper to application)

## Predict ED daily visit

Predict Emergency Department (ED) daily visit by Generalized Additive Model (GAM)

Choose CSV file

Browse... No file selected

Get geodata

Please fill the below details

Choose a site of Chang Gung Memorial Hospital:

Linkou

Choose the level of Triage:

Overall

Choose the Division:

Overall

Choose the length of period to forecast:

30 days

Analyze

Produced by Dr.Chin-Chieh Wu

Predicted ED daily visit:



05

# Shiny app (paper to application)

## Predict 28-days Mortality

Predict 28-days Mortality by Support Vector Machine for Adult Patients with Suspected Sepsis

Please fill the below details

Albumin (g/dL):

3.28

Inorganic phosphate (mg/dL):

3.21

Cortisol (ug/dL):

27.85

Glasgow Coma Scale:

13.55

Aspartate aminotransferase (U/L):

60.99

Platelet (1000/uL):

199.57

RDW (%):

14.76

Lactate (mg/dL):

23

Predicted 28-days mortality (%):

31.18275







■ ■ ■ ■

Keep going on!!  
Thank You

■ ■ ■ ■