

Rong-Ching Chang

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RESEARCH INTEREST

Machine Learning, Graph Neural Networks, Knowledge Graphs, NLP

EDUCATION

University of California, Davis Sep. 2021 - Present

Ph.D in Computer Science

Advisor: Prof. Zubair Shafiq

Tunghai University, Taichung, Taiwan Sep. 2019 – June 2021

M.Sc. in Computer Science

GPA: 3.98/ 4.30

Advisor: Prof. Chu-Hsing Lin

The University of California San Diego, CA, United States Sep. 2018 - Present

MicroMasters in Algorithms and Data Structures

Course: Data Structures Fundamentals, Algorithmic Design and Techniques, Graph Algorithms

Chung Yuan Christian University, Taoyuan, Taiwan June 2014 - June 2017

B.A., in Finance

GPA: 3.88 / 4.0

Advisor: Prof. Yi-Pei Chen

Academic Excellence Award, Excellent Professional Subjects Award

Middle Tennessee State University, TN, United States Sep. 2015 - May 2016

International Exchange Program

GPA: 3.63 / 4.0

JOURNAL PAPERS

Entropy-Based Time Window Features Extraction for Machine Learning to Predict Acute Kidney Injury in ICU

Chun-Te Huang, **Rong-Ching Chang**, Yi-Lu Tsai, Kai-Chih Pai, Tsai-Jung Wang, Chia-Tien Hsu, Cheng-Hsu Chen, Chien-Chung Huang, Min-Shian Wang, Lun-Chi Chen, Ruey-Kai Sheu, Chieh-Liang Wu, Chun-Ming Lai

Applied Sciences. 2021; 11(14):6364. <https://doi.org/10.3390/app11146364>

CONFERENCE PAPERS

Dataset of Propaganda Techniques of the State-Sponsored Information Operation of the People's Republic of China

Rong-Ching Chang, Chun-Ming Lai, Kai-Lai Chang, Chu-Hsing Lin

Misinformation and Misbehavior Mining on the Web with International Conference on Knowledge Discovery & Data Mining (KDD) 2021

[Online Sentiment And Post Reactions On Facebook: Leading Indicator For State-Level Covid-19 Confirmed Cases](#)

Rong-Ching Chang, Chun-Ming Lai, Chu-Hsing Lin, Kai-Chih Pai

AI for Public Health workshop at the International Conference on Learning Representations (ICLR), 2021

[Online Sentiment on Facebook: a Leading Indicator for State-Level Covid-19 Confirm Cases](#)

Rong-Ching Chang, Chu-Hsing Lin, Chun-Ming Lai, Kai-Chih Pai

International Conference On Information Technologies and Practices, 2021

[Detecting Propaganda on the Sentence Level during the COVID-19 Pandemic](#)

Rong-Ching Chang, Chu-Hsing Lin

Cryptology and Information Security Conference (CISC), 2020.

[Pandemic Response and Crisis Informatics: An Imperative for Public Health Messaging](#)

Chun-Ming Lai, Yi-Chen Liu, **Rong-Ching Chang**, Jon W. Chapman and Chu-Hsing Lin

International Computer Symposium (ICS), 2020.

[Leveraging Top Participants Networks Topology to Identify Suspiciously Manipulated Posts](#)

Chun-Ming Lai, Huan-Chieh Tseng, **Rong-Ching Chang**, Tzer-Shyong Chen, Kai-Chih Pai

National Conference on Science and Technology of National Defense. 2020.

[An Attribute-based Encryption for Cloud Medical Data Sharing and Its Implementation](#)

Chu-Hsing Lin, Chu-I Wu, Chia-Yuan Cheng, **Rong-Ching Chang**

The Symposium on Digital Life Technologies 2020 (DLT 2020).

[Unconnected searchable encryption and implementation for cloud medical record services](#)

適合於雲端病歷服務的無連結性可搜尋加密與實作

Chu-Hsing Lin, Yuan-Xiang Chi, Xuan-Jie Wang, **Rong-Ching Chang**

The Symposium on Digital Life Technologies 2020 (DLT 2020).

TALKS

Is a Twitter user's location correlated with their opinion on #COVID-19?

Rong-Ching Chang, Chun-Ming Lai

PyData Taipei. 2020.

RESEARCH EXPERIENCE

Information Security Lab, Tunghai University

AI + HI smart critical care diagnosis and treatment system and a new model of inter-hospital practice

Advisor: Prof. Chun-Ming Lai

Dec. 2020 - June 2021

Funder: The Ministry of Science and Technology, Taiwan

NO: MOST 109-2321-B-075A-001

- Conducting research publications

Defense Methods against Co-Resident Attack of Cloud Security and Proprietary Mechanisms in Medical Applications

Advisor: Prof. Chu-Hsing Lin

Sep. 2019 - June 2021

Funder: The Ministry of Science and Technology, Taiwan

NO: MOST107-2221-E-029-005-MY3.

- Assisting with several research publications

Suspicious Account Operation and Applied Tactics in National Events on Social Media

Advisors: Prof. Chu-Hsing Lin, Chun-Ming Lai

Nov. 2020 – Dec. 2020

- Writing research proposal and designing research pipeline

Smart Aquatic Plant: Giving the aquatic plant what it needs

Advisors: Prof. Chao-Tung Yang

Nov. 2020 – Jan. 2021

- Designing and making aquatic plant monitoring system using Arduino

Propaganda Detection during COVID-19

Advisor: Prof. Chu-Hsing Lin

May. 2020 – Aug. 2020

- Used BERT on transfer learning task in fast and first level propaganda detection
- The result showed notable differences both in account behavior and their texted content.

Leveraging Participant Network Topology to Identify Suspiciously Manipulated Posts

Advisor: Prof. S. Felix Wu, Chun-Ming Lai, Kai-Chih Pai

Sep. 2019 – Sep. 2020

- Identifying suspicious accounts and posts using domain and first N participants

Chung Yuan Christian University

The Effects of Family-Owned Business and the Initial Public Offerings System on Market Liquidity

Advisor: Prof. Yi-Pei Chen

July 2015 - Feb 2016

Funder: The Ministry of Science and Technology, Taiwan

NO: 104CFD0500082

- Our models showed IPO pricing has a positive effect on market liquidity in new IPO system.

PROFESSIONAL EXPERIENCE

Industrial Technology Research Institute

Hsinchu, Taiwan

AI Research Intern, Computational Intelligence Technology

Jan. 2020 – Aug. 2020

- Researched and tested papers focused on AutoML frameworks, automatic forecasting of time series, global supply chain management, inventory management
- Tested AutoML packages including AutoKeras, Hyperas with docker, GPU, Tensorflow and Pytorch on various tasks.

Factor Bike

Taichung, Taiwan

Full Stack Web Developer Intern

Jan. 2019 – Apr. 2019

- Developed Shopify online store

J.P. Instruments

UX/UI Intern

CA, United States
July 2017 – Dec. 2017

- Developed app design

Doctor Diet Inc.

Finance Manager Intern

Nashville, TN, United States
May 2016 – Sep. 2016

- Developed semi-automated system for daily sales statements, cash flow tracking for 14 clinics

Certificate

- Microsoft Certified: Azure AI Fundamentals
- Nvidia: Combining Data Types through an Image Captioning Project

HONORS & AWARDS

- National Planning College Student Innovation Contest Finalist Award, Taiwan Business Strategy Association
- Times Young Creative Finalist Award (top 1% from thousands of competitors from China and Taiwan)

LEADERSHIP EXPERIENCE

President, Photography Club, Chung Yuan Christian University, Taoyuan, Taiwan

May 2014 – May 2015

Doubled membership to 200; Recognized with award for Excellent Art Club; best achievement since club establishment.

SKILLS

- Computer
SQL, Git, Docker, Restful API, HTML, R, C, Java, Bash, AWS, Arduino, Jupyter, Python: sklearn, fast.ai, Pandas, TensorFlow, Keras, Pytorch, DGL, Hugging Face, Networkx
- Language
English, Mandarin

PROFESSIONAL DEVELOPMENTS

Python for Financial Analysis and Algorithmic Trading, Intro to Fintech, Knowledge Graphs, Probabilistic Graphical Models: Representation, Graph Algorithms in Genome Sequencing, Dynamic Programming: Applications in Machine Learning and Genomics, NP-Complete Problems, String Processing and Pattern Matching Algorithms