# Wei Cheng Wang

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Personal Website

Doctoral Researcher specializing in developing deep learning frameworks for complex, real-world audio and/or visual data. Proven ability to design robust mechanisms for real-world constraints (e.g., privacy, data scarcity), now seeking a role to build and transfer these solutions to new domains.

## **EDUCATION**

Ph.D.

Ghent University, Belgium

Computer Science Engineering

2019-pres.

All requirements completed; public defense scheduled for Nov. 14, 2025.

#### **Master of Science**

National Cheng Kung University (NCKU), Taiwan

· Computer and Communication Engineering.

2014-2016

Published in internation conferences and journals.

#### **Bachelor of Science**

National Cheng Kung University (NCKU), Taiwan

Electrical Engineering.

2010-2014

## **EXPERIENCE**

#### **Doctoral Researcher**

Ghent University, Belgium

 Funded by Flanders AI; conducted research on real-world smart surveillance deployment and privacy-preserving learning.

2019-2025

- Deployed contemporary deep learning models (e.g., generative-based) on real-world data collected by industry partner Asasense.
- Developed opt-in privacy protection schemes for acoustic surveillance to fulfill GDPR while remaining compatible with off-the-shelf models.
- Designed self-supervised learning framework for general-purpose representations; leveraged the recurrent nature of surveillance data to address false negatives and information bottleneck.
- Developed transfer learning model assessment protocols under real-world constraints: lack of labels and source data.
- Co-advised master's thesis on visual surveillance data anonymization, providing guidance on problem formulation, experimental design, and model implementation.

## **Teaching Assistant**

Ghent University, Belgium

Mentored students through text/vision-based ML projects, including Airbnb fraud detection and gesture recognition, integrating industrial workshops with Sony Depthsensing Solutions and guiding full-stack model delivery using Python (Scikit-learn, OpenCV).

2021-2023

#### **Research Assistant**

Academia Sinica, Taiwan

Delivered an oral presentation as a first-author at ICIP'18.

2018-2019

## **Research Assistant**

NCKU, Taiwan

Contributed to multiple research projects, resulting in publications in top-tier venues like IEEE Transactions on Image Processing.

2017-2018

## SKILLS

Python, PyTorch, TensorFlow, C++, Scikit-learn, OpenCV, NumPy, Pandas.

Programming

Self-Supervised Learning, Generative Models, Privacy-Preserving, Multimodal Data, Data-Centric AI, Model Evaluation & Benchmarking.

Research

**Dev Tools** 

Git, Weights & Biases, Tensorboard

## **AWARDS**

Best & Excellent Master's Thesis Award	2016
The Chinese Image Processing and Pattern Society	
The Chinese Institute of Electrical Engineering	
Honourary Member	2016
The Phi Tau Phi Scholastic Honour Society	
First Place (MOSTGP) & Second Place (IC1)	2015
International ICT Innovative Services (InnoServe) Awards	
Merit Award (R&D)	2015
· Asia Pacific ICT Alliance (APICTA) Awards	
SELECTED PUBLICATIONS	

#### **Journal Articles**

Embedding-based pair generation for contrastive representation learning in audio-visual surveillance data Frontiers in Robotics and AI, 2025. (First author)

Source-free model transferability assessment for smart surveillance via randomly initialized networks Sensors, 2025. (First author)

An opt-in framework for privacy protection in audio-based applications

IEEE Pervasive Computing, 2022. (First author)

Driver monitoring using sparse representation with part-based temporal face descriptors

IEEE TITS, 2020. (Second author)

USEAQ: Ultra-fast superpixel extraction via adaptive sampling from quantized regions

IEEE TIP, 2018. (Second author)

Spatiotemporal coherence-based annotation placement for surveillance videos

IEEE TCSVT, 2016. (First author)

## **Conference Proceedings and Workshops**

Clustering trajectories in heterogeneous representations for video event detection

IEEE International Conference on Image Processing (ICIP), 2018. (First author)

For a complete list of publications, see: Google Scholar

## Soft Skills

#### Leadership

Co-President, Taiwanese Student Association of Ghent University (2020-2022).

Led community engagement and support initiatives for over 100 members, establishing a city-wide mentormentee program from scratch during the pandemic.

Served as the primary liaison with the Taipei Representative Office in Belgium, honing cross-cultural coordination and communication skills

#### Innovation & Commercialization

## Team Leader; Presenter

Led a team to transform theoretical algorithms into a working prototype, securing First Place (Innovation Services Award) and Merit (Top 3, APICTA) at international startup competitions.

Pitched prototype and business model to non-technical judges, successfully translating technical concepts into commercial value.

Prototype transferred to EverSTek, demonstrating direct industrial impact.

## **Academic Presentations**

#### Presenter; First Author

Presented research results in international conferences (ICIP'18, ICMVA'17, ISCAS'15, SNPD'15) and crossinstitutional events.