Taipei, Taiwan
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Jia Jun Chang

Chang is a dedicated researcher with a solid foundation in Geographic Information Science. His expertise extends to Data Mining, Deep Learning, and Remote Sensing.

Education

Master in Geography, National Taiwan Normal University

September 2022 — June 2024

- Graduated with the honor of Outstanding Doctoral and Graduate Students Award.
- Thesis topic: An Approach Integrating Spatial Factors via Convolutional Operations in Artificial Neural Network: Real Estate Appraisal as Case Study.
- GPA: 3.92/4.00 WES WORLD EDUCATION SERVICES

Bachelor in Geography, National Taiwan Normal University

September 2018 — June 2022

- Graduated with the honor of Presidential Intellectual Education Award.
- Research Interests: Geospatial Modeling, GeoAI
- GPA: 3.80/4.00 WES WORLD EDUCATION SERVICES

Research History

Research Assistant at National Taiwan Normal University

October 2022 — July 2023

- Actively contributed to a Ministry of Science and Technology (MOST) research project, focusing on the development of a Spatial-temporal Continuous Air Quality Prediction Model. Integrated data from Multi-environmental Information and Taiwan Air IoTs Wide Array Network (TAIWAN) sensors.
- Spearheaded the implementation of various analysis algorithms, including Geographically and Temporally Weighted Regression (GTWR) and Artificial Neural Networks, to predict concentrations of particle matter.
- Led the preprocessing efforts for large volumes of air quality sensor data, ensuring its readiness for analysis and modeling.

Research Assistant at National Taiwan Normal University

October 2021 — October 2022

- Engaged in a collaborative industry-academia project with the China Credit Information Service, actively contributing to the Implementation of Real Estate Appraisement Decision Support System.
- Devoted efforts to the development of a Full-Stack web application, seamlessly integrating geospatial analysis with traditional appraisal algorithms.
- Explored and assessed the feasibility of applying Actual Price Registration data (APR) to traditional appraisement scenarios, seeking innovative solutions for enhanced accuracy and efficiency.

Research Assistant at National Taiwan Normal University

October 2021 — June 2022

- Actively contributed to a collaborative research project with the Industrial Technology Research Institute, focusing on the Implementation of a Mobile Air Quality Sensor Data Application Platform.
- Spearheaded the preprocessing of extensive mobile air quality sensor data, while also implementing numerous geospatial analysis functions using Arcpy to enhance data accuracy and usability.

Research Assistant at National Taiwan Normal University

January 2021 — October 2021

- Actively engaged in a university research project under the guidance of Professor Chang, contributing to the development of a Spatial Decision Support System for Hydrological Landscape Ecology Conservation in Smart City initiatives.
- Implemented a semantic segmentation model, U-NET, to achieve pixel-based classification of multi-temporal satellite images, enhancing the accuracy of image analysis.
- Led the acquisition and digitization of multi-temporal satellite images for the research area, and meticulously preprocessed these images to optimize their usability within the data pipeline.

Employment History

GIS specialist & developer at CCIS Joint Appraisal Firm.

September 2022 — Present

- Spearheaded the establishment and implementation of the spatial analysis procedure of real estate open data in Taiwan.
- Pioneered the integration of geospatial technology with internal appraisal algorithms, transforming the appraisal process into a highly automated system.
- Led the design and implementation of spatial real estate decision support systems, incorporating advanced appraisal algorithms for enhanced efficiency and accuracy.

GIS Analyst & Developer (Part-time) at NADI SYSTEM CORP.

March 2020 — September 2022

- Played a pivotal role in the development of a web GIS platform utilizing Cesium (3D) and backend applications, demonstrating expertise in React, TypeScript, and Tailwind CSS.
- Collaborated closely with senior developers and technical leaders to seamlessly integrate 3D GIS techniques with the Building Information Model, actively contributing to multiple projects with esteemed clients including Delta Electronics, Fetnet, and F5.

GIS Intern at Interactive Digital Technologies.

July 2019 — February 2020

- Delved into the ESRI technology ecosystem and its suite of products, actively engaging with ArcGIS Online, ArcGIS Apps, and ArcGIS Developer API.
- Took part in the Aerial Survey Office project, driving the implementation of a web application for multi-temporal aerial image comparison using the ArcGIS Maps SDK for JavaScript.

Languages

English Highly proficient

Chinese Mandarin Native speaker

Certifications

TOEFL iBT 103 / 120

September 2023

Journal Papers

Chang, J. J., Chang, K. C. (2023).

An Approach Integrating Spatial Factors via Convolutional Operations in Artificial Neural Network: Real Estate Appraisal as Case Study. Journal of Geographical Research. (Accepted)

Chen, Y. J., **Chang, J. J.**, Chang, K. C. (2021).

Estimation of space-time traffic corridor earthquake risk exposure based on cellular trajectory data. Journal of Geographical Research, 74(105-141). (Original paper written in Chinese)

Conference Papers

Chang, J. J., Yin, C. H., Chang, T. Z., Lu, C. H., Chang, K. C. (2023).

Semi-supervised Generative Adversarial Network for Identifying Cellphone Crop Images. 2023 Taiwan Geographic Information Society Annual Conference and Academic Symposium.

Chang, J. J., Chen, C. H., Chang, K. C. (2021).

Constructing a Multi-temporal PM2.5 Estimation Model Using Geographical and Temporal Weighted Regression. 2021 Taiwan Geographic Information Society Annual Conference and Academic Symposium. (Original paper written in Chinese)

Chang, J. J., Chang, K. C. (2020).

Convolutional Neural Networks for Crop Image Recognition Based on Transfer Learning. 2020 Taiwan Geographic Information Society Annual Conference and Academic Symposium. (Original paper written in Chinese)

Conference Presentations

Chang J. J., Chang K. C. (2023).

Using Convolution Neural Network as Environmental Features Extraction Pipeline – taken Real Estate Appraisal as a precedent. 2023 Association of American Geographers, Denver, CO.

Honor and Awards

Scholarship for Outstanding Doctoral and Graduate Students

October 2023

- National Taiwan Normal University has established this scholarship to motivate doctoral and graduate students of academic excellence to achieve their higher education goals.
- This esteemed scholarship is awarded to only one graduate student in each department graduate institute, underscoring its significance as a symbol of academic achievement and dedication to scholarly pursuits.

Outstanding Student Paper Award

December 2020

- 2020 Taiwan Geographic Information Society Annual Conference and Academic Symposium.
- Among the sessions, only one presenter has the privilege of earning this esteemed award. This acknowledgment underscores the quality and significance of the presenter's contribution to their respective session.

Presidential Intellectual Education Award

May 2020

- Students with outstanding academic performance or achievements are eligible for the award.
- With only one student selected to receive this honor each academic year, it symbolizes the pinnacle of academic excellence and serves as a testament to the recipient's commitment to scholarly pursuits and intellectual growth.

Leadership and Extracurricular Activities

Sharing Expertise, Lab of Geospatial and Remote Sensing

March 2021 — Present

- After several years of learning and training under the guidance of Professor Chang, I started to organize weekly technical and research meetings with undergraduates.
- Contributed to knowledge and expertise sharing by conducting practical programming workshops and tutorials.
- Domain knowledge and know-how are the greatest assets of an individual. I'm more than willing to share valuable knowledge with others to benefit not just the entire lab but also the future careers of students.

Member, Securities Research Society, NTNU

September 2018 — June 2019

- Participated in the discussion and meeting with members and leaders, and acquired several statistical methods and a more comprehensive understanding of the stock market.

References

Kuo-Chen Chang

Ph.D., University of Minnesota, Twin Cities

- Professor
- Department of Geography, National Taiwan Normal University
- Email: kcchang@ntnu.edu.tw
- Tel: 886-2-77491672

Hsueh-Cheng Chou

Ph.D., State University of New York at Buffalo

- Associate Professor
- Department of Geography, National Taiwan Normal University
- Email: hchou@ntnu.edu.tw
- Tel: 886-2-77491645