CHUNG EN TSERN

Data Science | Spatial Analysis | Design

MSc Urban spatial science (CASA), UCL
Modelling and simulation pathway

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HIGHLIGHT

- 6 years of experience in spatial data analysis, urban policy research and digital transformation.
- Founding team member of Taipei Urban Intelligence Center, a government internal innovation organization.
- Executed spatial data analysis across multiple government sectors, including transportation, Pandemic Response Office, urban development, and tourism (QGIS, Excel, Python, Power BI, SQL Server).
- Experienced in UI/UX design, app data analysis, and product iteration (Figma, Power BI).
- comprehend dashboard and data platform development process, collaborating with front-end, back-end, and systems engineers.
- Led and executed 3 urban data& AI projects integrating large language models.
- Master's practice specialise in Urban Modelling and Simulation, with a focus on Agent-Based Modelling (ABM), Data Science for Spatial Systems (tree-based methods, neural networks),and complex urban network analysis, developing skills in Python, R, and SQL.
- Interests: hiking, cycling, street photography, and a fan of baseball and basketball.

PROFESSIONAL SKILLS

Language: English (Advenced /C1), Mandarin and Taiwanese (Native)

Programming: Python/ SQL /R

Software: Visual studio/ QGIS/ Power bi/ Tableau/ Figma/ Microsoft Office(Excel, PPT) /Adobe(Photoshop, InDesign)

Practices: Spatial Analysis/ Data Visualisation/ ML/ Database/ LLMs/ Policy Research/ UI UX Design/ Project management

WORK EXPERIENCE

Data& AI Researcher

City Science Lab, MIT& Taipei Tech, Jan. 2024 - Aug. 2024 (Full time) Taipei, Taiwan | Sep. 2024- Now (Part time) Remote

Responsibilities

- Led a team and collaborate with engineers to integrate large language models (LLMs) with urban data for AI-driven applications.
- Designed front-end interfaces and defined key functionalities based on project requirements.
- Prepared reports and presentations, ensuring project alignment through regular meetings with directors and the MIT team.
- Assisted a professor in developing and teaching urban data analytics courses and mentor undergraduate students.

Achievements

- Validated the accuracy of the urban mobility simulator using telecom, transport transition data ,and travel survey.
- Applied urban mobility simulator to collaborate with a government agencie to analyse commuting patterns in newly developed areas.
- Developed three AI product POCs (City AI, Urban Simulator, Insight Navigator), leading to a successful industry-academic partnership with tech companies.
- Presented research outcomes at the MIT City Science Networking event and the City Science Summit.
- Submitted two research papers to the Computational Urban Planning and Urban Management (CUPUM) Conference (under review).

Senior Researcher (Data analytics, Design,and Project management)

Taipei Urban Intelligence Center, Taipei City Government, Feb. 2020 - May. 2023 (Full time) Taipei, Taiwan

Responsibilities

- As a founding member, contributed to the goal-setting and reported weekly progress to the CTO of the city government.
- Led data analytics projects in collaboration with various departments of the city government, driving cross-functional initiatives.
- Collaborated with engineers to plan, design, and develop the city data platform, integrating both internal and external government data.
- Ensured project delivery and alignment with strategic objectives, presented project results to the public (official website)

Achievements

- Collaborated with the City Government's Pandemic Response Office to develop the COVID-19 dashboard and forecasting Projects, which helped control the spread of COVID-19 in the capital and earned recognition through the Innovative E-Health Solutions Award.
- Collaborated with the department of transportation to conduct a commute pattern analysis and taxi stand allocation analysis, providing valuable policy recommendations and presenting the results to the mayor.
- Contributed the development of the City Dashboard platform, which integrates cross-domain data from over 10 government departments and aligns it with 9 key urban themes. Delivered a user-friendly interface that improved data accessibility, addressed organizational silos, and sharing its value with the public.

VOLUNTEER & SIDE-PROJECTS

Designer, Believe in Next Generation Association (NPO)

Oct. 2019 - Aug. 2024 (Part time) Taipei, Taiwan

Believe in Next Generation Association is a non-profit organization dedicated to empowering young people with a sense of social purpose. I contributed to the Explore Ishinomaki project, which sought to capture and convey the spirit of urban revitalisation in Japan following the Tōhoku earthquake and tsunami., I have actively supported the association's operations by serving as a designer, photographer, and editor for various initiatives.

Core Member, IVC-InVisibleCities (Research Community)

May. 2019 - Aug. 2022 (Part time) Taipei, Taiwan

IVC is a community for urban innovation. I contributed to projects focused on leveraging open data to understand cities, with a primary focus on innovative solutions for urban co-living. I also hosted an online sharing and study group focused on smart cities and data applications in the community.