Chengxuan Li

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Chengxuan Li is a PhD student at the Environmental Systems Lab, Cornell University. Trained as an architect at the Architectural Association School of Architecture, Chengxuan specialises in sustainable design, encompassing environmental design, energy performance modelling, and sustainability evaluations at both architectural and urban scales. Proficient in Python and C#, Chengxuan has developed simulation engines and quantitative workflows to enhance performance simulations and analytics for buildings and urban environments.

Skills

C#/.NET with RhinoCommon API & ETO UI
Python with Numpy, Pandas, Matplotlib
Urban Analysis with Geopandas, Rasterio, Xarray, Shapely, PyGeos, t4gpd

Rhinoceros & Grasshopper
GeoSpatial analysis with QGIS & GDAL
Energy Modelling with EnergyPlus & Ladybug
Microsoft & Adobe Suites

Language

TOEFL: 119/120
GRE: Q170/170(*94%*)   V160/170(*84%*)   AW5.5/6 (*98%*)
Chinese (Mandarin): Native
Japanese & Spanish: Elementary

Education

PhD, Cornell University   *Since Jul 2024*
PhD student in Systems Engineering
Supervisor: Prof. Dr. Timur Dogan
Research Lab: Environmental Systems Lab, Cornell AAP

MArch, Architectural Association School of Architecture   *Jun 2024*
Master of Architecture, Diploma Programme RIBA/ARB Part II; current GPA 3.89/4.00
Thesis: CompleXities: Towards the Methodological Framework for A Numerical Taxonomy of Cities and Urban Design Based on Isovist Analysis of Views and Visibilities
2023/24 Diploma Technical Thesis High Pass Award

BA(Hons), Architectural Association School of Architecture   *Jun 2022*
Bachelor of Arts with Honours, Intermediate Programme RIBA/ARB Part I; GPA 3.86/4.00
Design Thesis: Infrastructure for Housing Affordability, Community Well-being and Sustainable Growth
Technical Thesis: The Energy-Efficient Refurbishment of an Industrial Building in Royal Docks, London
2021/22 Undergraduate Technical Thesis Commendation Award
2021/22 Undergraduate History&Theory Thesis Award Finalist
2020/21 Undergraduate History&Theory Thesis Award Finalist

Experience

Teaching Assistant   *Sep 2023*
AA Visiting School (DLAB) https://dlab.aaschool.ac.uk/   Architectural Association, London

Through teaching computational design, form-finding and structural optimization principles at the AA Visiting School in 2023, I helped students explore new frontiers in active bending and lightweight structures. The AA DLAB 2023 focused on robotically bundling and twisting rattan canes to create unique and structurally-efficient forms. The project was featured in the UK Construction week in Birmingham.

Environmental Consultant   *Jul-Sep 2023*
Urban Systems Design https://www.urbansystems.design/   London

In my role supporting Google's sustainability initiatives, I coordinated evaluation efforts of its North American and Latin American workplaces to assess compliance with environmental guidelines. This included data collection, processing and analysis of the workplaces' performance. I assisted with reports and presentations, contributing insights that informed strategic planning and decision-making around de-carbonising Google's real estate portfolio.

Architectural Assistant   *Jul-Sep 2022*
Hopkins Architects https://www.hopkins.co.uk/   London

For a prestigious UK client, I contributed to the feasibility assessment of a site in Cambridge. Combining manual and generative approaches, my role involved optimisation of early-design/massing schemes within the parameters of the client brief, planning regulations, sustainability, site covenants and easements by collaborating closely with decision-makers, lighting, environmental, and planning consultants to synthesise inputs from various stakeholders.

Publications

Optimising Urban Morphological Tessellation: Methodological Advancements Using Adaptive Tessellation and Guided Triangulation   *Aug 2024*
The 2nd International Conference on Architecture Across Boundaries (AAB2024)

Visual Typology: A Numerical Taxonomy of Urban Spaces Using Isovist Analysis   *Jul 2024*
The 6th International Conference on Computational Design and Robotic Fabrication (CDRF2024)