Chuan Li

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Research Profile. Computer scientist with a Ph.D. in Computer Science, qualified by the French National Council of Universities (CNU), Section 27 — Computer Science, and several years of teaching experience in French higher education. My work lies at the intersection of data science, machine learning, spatiotemporal modelling, and large-scale heterogeneous data analysis. I develop reproducible pipelines for data integration, statistical learning, predictive modelling, and interpretable analytics, with applications to mobility, public-health, territorial risk, and decision support. My profile combines strong experience in Python-based data science, large observational datasets, and machine-learning research with hands-on teaching in programming, data analysis, and computer science fundamentals.

Research Interests: data science, machine learning, data mining, spatiotemporal modelling, statistical learning, large-scale data processing, interpretable AI, geospatial data science, decision-support systems.

Education

Sorbonne Université — Paris, France
Ph.D. in Computer Science Defense: Nov 17, 2025 — *Oct 2022 – Oct 2025*

Joint laboratories: LIPADE (Université Paris Cité) and SAMOVAR (Télécom SudParis, Institut Polytechnique de Paris).

Advisors: Pr. Hassine Moungla and Pr. Vincent Gauthier.

Thesis: *Spatio-Temporal Modeling for Public Health and Electric Mobility: From Digital Contact Tracing to Equitable EV-Charging Networks.*

Teaching Associate (C/C++/Java), Polytech Sorbonne.

Innovation Consultant at Renault Group, leading modeling efforts for city-scale environmental noise estimation. Jan–Jul 2025

INSEAD — Fontainebleau, France
Business Foundations Certificate (BFC) — Executive Education — *2025*

Sorbonne University – Polytech Sorbonne — Paris, France
M.Eng. in Electrical & Computer Science (GPA 17.83/20, Rank 2/48) — *Sept 2018 – Jul 2021*

University of Poitiers — Poitiers, France
B.Sc. (Year 2) in Electrical & Computer Engineering — *Sept 2016 – Jul 2018*

Research Experience

LIPADE (Université Paris Cité) & SAMOVAR (Télécom SudParis) — Paris/Palaiseau, France
Ph.D. Researcher — Data Science, Machine Learning, Spatiotemporal Analytics — *Oct 2022 – Nov 2025*

Developed data-science and machine-learning pipelines for large-scale spatiotemporal datasets, combining geospatial, behavioural, demographic, and infrastructure-related data.

Designed reproducible workflows for data preprocessing, feature engineering, temporal aggregation, predictive modelling, benchmarking, and sensitivity analysis under real-world data sparsity and noise.

Worked on statistical learning and interpretable modelling for decision support, risk mapping, forecasting, and territorial analysis.

Conducted research on heterogeneous data integration and graph-based modelling, with applications to mobility analysis, public-health data, and infrastructure accessibility.

Collaborated with academic and institutional partners on applied research questions involving large observational data and operational decision-making.

Télécom SudParis, Institut Polytechnique de Paris — Palaiseau, France
Research Engineer — Data Analysis and Spatiotemporal Modelling — *May 2022 – Oct 2022*

Built reproducible data-processing pipelines for large-scale mobile-network and geospatial datasets.

Implemented comparative evaluation workflows for statistical and machine-learning models on temporal and spatial data.

Supported applied research on large-scale data analysis, behavioural modelling, and territorial analytics.

Teaching Experience

Polytech Sorbonne (Sorbonne Université) — Paris, France
Teaching Associate — *2022 – 2025*

Taught computer architecture, Java object-oriented programming, C programming, and core computing tools to engineering students.

Served as course lead for Java OOP, including practical supervision, student support, and pedagogical coordination.

Delivered tutorials, practical sessions, and assessment-related teaching activities in the French higher-education system.

ENSTA Paris, Institut Polytechnique de Paris — Palaiseau, France
Teaching Associate — C Programming (IN101) — *2023 – 2024*

Supervised practical sessions and programming exercises for undergraduate engineering students.

ESIEE Paris — Noisy-le-Grand, France
Lecturer — Deep Reinforcement Learning — *2023 – 2025*

Designed and delivered lectures on machine learning and reinforcement learning topics for engineering students.

Selected Applied Research Experience

Renault Group, Alliance Engineering Dept. (DEA-TDV) — Guyancourt, France
Research Engineer Apprentice — Data Analysis, Predictive Modelling, Decision Support — *Sept 2018 – Aug 2021*

Developed and validated data-driven models for large-scale applied engineering problems, with emphasis on reproducible experimentation and decision-support use cases.

Worked on predictive modelling, statistical evaluation, and operational interpretation of model outputs in industrial settings.

Selected Publications

Data Science, Spatiotemporal Modelling, and Machine Learning

Li, C., Gauthier, V., Nunez del Prado Cortez, M., Alatrista-Salas, H., & Moungla, H. "Assessing the Usefulness of Digital Contact Tracing Using Real-World Contact Data." *Scientific Reports (Nature Portfolio), accepted, (**JCR Q1**)* . [Preprint]

Li, C., Gauthier, V., Nunez del Prado Cortez, M., Alatrista-Salas, H., & Moungla, H. "On the Utility of Digital Contact Tracing on Empirical Contact Networks." *NetMob 2025*, Paris, France. (Oral; **Top-3 Best Paper**) [HAL] [Slides] [Award]

Li, C., Jiang, Y., Gauthier, V., & Moungla, H. "Enhancing Spatio-Temporal Forecasting with Spatial Neighbourhood Fusion: A Case Study on COVID-19 Mobility in Peru." *Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Barcelona, Spain, 2026. **Oral Presentation**. [IEEE ICASSP 2026 Proceeding] [Session] [Slides]

Hu, Z., **Li, C.**, et al. "Spatio-Temporal Analysis of Mobile Service Consumption for Social-Signature Clustering." *NetMob 2023*, Madrid, Spain. [HAL]

Yang, R., **Li, C.** "Semi-Automatic Correction of 3D Tubular Structure Skeletons via Component-Wise MST and Filtered Delaunay Triangulation." In *Proceedings of ACM ICMR 2026*, Amsterdam, Netherlands. (**CORE B**)

Geospatial Analytics and Large-Scale Optimisation

Li, C., Zhao, S., Gauthier, V., & Moungla, H. "Large-Scale Optimisation of Electric-Vehicle Charging Infrastructure." *ACM SIGSPATIAL 2024*, Atlanta, USA. (**CORE A**) [DOI] [Slides] [Award Certificate]
ACM SIGSPATIAL GIS Cup 1st place

Li, C., Yang, R., Gauthier, V., & Moungla, H. "Automated Ensemble Learning for Proactive Groundwater Management." *ACM SIGSPATIAL GeoAI Workshop 2025*, Minneapolis, USA. [DOI] [Agenda] [Slides]

Hu, Z., Gauthier, V., **Li, C.**, & Moungla, H. "Fine-Grained Urban-Grid Clustering of Mobile-Phone Metadata." *IEEE IJCNN 2025*, Rome, Italy (**CORE B**) [IEEE]

Li, C., Zhao, S., Gauthier, V., & Moungla, H. "DOVA-PATBM: Optimizing Large-Scale EV Charging Infrastructure." *ACM KDD 2026* (**CORE A***, under review). [arXiv]

Selected Awards

NETMOB 2025 – Top-3 Best Paper Paris, France

Public-health related work on empirical contact networks and digital contact tracing.

ACM SIGSPATIAL GIS Cup 2024 – 1st Place Atlanta, USA

Large-scale geospatial optimisation for equitable EV-charging accessibility.

Datathon Sécurité Ferroviaire 2025 – 3rd Place Paris, France

Predictive modelling for territorial risk assessment and maintenance prioritisation.

Methods & Tools

Programming: Python, R, SQL, C/C++, Java, MATLAB, Scala.

Data Science: data preprocessing, feature engineering, statistical learning, predictive modelling, benchmarking, sensitivity analysis, interpretable machine learning.

Data Management: structured and heterogeneous data integration, database querying, large-scale observational data processing, reproducible pipelines.

Visualization & Reporting: exploratory data analysis, reporting, visual analytics, scientific communication of quantitative results.

Modelling: machine learning, spatiotemporal modelling, forecasting, graph-based methods, risk mapping, decision-support analytics.

Geospatial Data Science: QGIS, spatial analytics on grids and graphs, territorial indicators, spatial data integration.

Languages: Chinese (native), French (fluent), English (professional).

Academic Service: Peer Reviewer (ACM KDD, ACM WWW, ACM SIGSPATIAL, ECML-PKDD).

Teaching & Pedagogical Highlights

Several years of teaching experience in French higher education across engineering and computer-science curricula.

Experience with lectures, tutorials, practical sessions, course coordination, and student supervision.

Strong interest in teaching data science, programming, machine learning, and newly introduced AI-related topics.