Chuang Yang (杨闯)

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EDUCATION

Department of Information & Communication Engineering, the University of Tokyo Since Oct. 2022
Pursing Ph.D degree in Information Science and Technology Komaba, Japan
Supervised by Prof. Kauro Sezaki and Prof. Renhe Jiang

Center for Spatial Information Science, the University of Tokyo Sep. 2020 – Sep. 2022
M.S. degree in Socio-Cultural Environmental Studies Kashiwa, Japan
Supervised by Prof. Ryosuke Shibasaki and Prof. Renhe Jiang

Center for Spatial Information Science, the University of Tokyo Oct. 2019 – Aug. 2020
Research Student Kashiwa, Japan
Supervised by Prof. Ryosuke Shibasaki and Prof. Renhe Jiang

Southern University of Science and Technology Sep. 2015 – Jun. 2019
B.S. degree in Computer Science Shenzhen, China
Supervised by Prof. Bo Tang

RESEARCH

Research Areas -> *All about the mobility data :)*

- Representation Learning on Large-scale Geospatial Data (Ongoing*)
- Trajectory-based Epidemic Simulation (TVCG 22, TSAS 22)
- Interactive Trajectory Data Exploration (ICDE 19)
- Deep Learning for Mobility Prediction at Different Spatial Scale
  - * Region-level (WWW 23, ECML/PKDD 22,21)
  - * Grid-level (TIST 22, TKDE 21)
  - * Individual-level (SIGSPATIAL 20, 23, 24, NeurIPS 24)

Selected Research Papers *Corresponding Author

- **Chuang Yang**, Renhe Jiang, Xiaohang Xu, Chuan Xiao, Kaoru Sezaki. SIMformer: Single-Layer Vanilla Transformer Can Learn Free-Space Trajectory Similarity. *The Proceedings of the VLDB Endowment (**PVLDB**)*, Vol. 18, No. 2, pp. 390-398, 2024. [pdf] [code]
- **Chuang Yang**, Zhiwen Zhang, Zipei Fan, Renhe Jiang, Quanjun Chen, Xuan Song, Ryosuke Shibasaki. EpiMob: Interactive Visual Analytics of Citywide Human Mobility Restrictions for Epidemic Control. *IEEE Transactions on Visualization and Computer Graphics (**TVCG**)*, Vol. 29, No. 8, pp. 3586-3601, 2023. [pdf] [code][demo video]
- **Chuang Yang**, Yilan Zhang, Bo Tang, Min Zhu. Vaite: a Visualization-assisted Interactive Big Urban Trajectory Data Exploration System. *Proc. of the 35th IEEE International Conference on Data Engineering (**ICDE**)*, Macau, China, Apr. 2019. [pdf]
- Peizhi Tang, **Chuang Yang***, Tong Xing, Xiaohang Xu, Renhe Jiang, Kaoru Sezaki. Instruction-Tuning Llama-3-8B Excels in City-Scale Mobility Prediction. *Proc. of the 32th International Conference on Advances in Geographic Information Systems (**HuMob'24@ACM SIGSPATIAL**)*, Atlanta, USA, Oct. 2024. [pdf] [code]

Selected Resource Papers

- **Chuang Yang**, Renhe Jiang, Ryosuke Shibasaki. MaaS System Visualization. *Big Data and Mobility as a Service 9, 245-263, Elsevier*, 2022. [pdf]
- Yudong Tao, **Chuang Yang**, Tianyi Wang, Erik Coltey, Yanxiu Jin, Jinghao Liu, Renhe Jiang, Zipei Fan, Xuan Song, Ryosuke Shibasaki, Shu-Ching Chen, Mei-Ling Shyu, Steven Luis. A Survey on Data-Driven COVID-19 and Future Pandemic Management. *ACM Computing Surveys (**CSUR**)*, Jun. 2022. [pdf]

WORKING EXPERIENCE

Loregit Inc.
CTO, Technical Co-founder (Freelance)

Jan. 2020 – Now
Shenzhen, China

- A start-up company established with classmates during undergraduate studies.
- Committed to developing a knowledge management platform called Loregit.
  * It stores all human knowledge and their dependencies.
  * Knowledge Mirror: manage personal knowledge status in cloud like managing package dependencies.
  * Knowledge Navigation: help users find the best learning path given the learning objective.
  * Consensus Mechanism: collaborative editing, public voting, to promote iterative upgrades of KG.

LocationMind Inc.
Research Intern (Part time)

Apr. 2020 – Apr. 2022
Tokyo, Japan

- Designed a fine-grained epidemic model to simulate the propagation dynamics in the Greater Tokyo Area.
- Integrated Stop Points Detection&Time Interpolation functions into HMM Map Matching Algorithm in Java.
- Joined xPop team and in charge of infrastructure operation and maintenance.

SouthIntelligence Tech. Co. Ltd.
Software Engineering Intern (Full time), supervised by Dr. Yilun Cai

Jul. 2018 – Oct. 2018
Shenzhen, China

- Participated in building an elasticsearch-based macro policy search engine.
  * Designed and developed a mini web app for the interactive exploration of elasticsearch scoring function.
  * Developed part of search engine queries.
  * Built a Python script for deployment in production environment.
  * Developed the background master control program (MCP) in Python.

Database Group@SUSTech
Undergraduate research assistant (Part time), supervised by Prof. Bo Tang

Oct. 2017 – Jul. 2019
Shenzhen, China

- Teacher Assistant for CS302 Operating System, Spring 2019, CSE@SUSTech
- Proposed a data visualization system, named Vaite.
  * Published at IEEE ICDE 2019 in first author.
  * A visualized assisted exploration system to help users discover useful insights from big trajectories.
  * Oriented towards users without experience or knowledge on issuing their analysis tasks by SQL like queries.
  * Driven by Apache Spark, thus supports near real time response.

COMMUNITY SERVICES

- Program Committee Member for ECML/PKDD 2021,2022
- Reviewer for Journal IEEE TITS, ACM TSAS
- Subreviewer for ACM SIGSPATIAL 2021,2022, CIKM 2023, Web4Good Track WWW 2024
- External Reviewer for PAKDD 2023, 2024

SELECTED AWARDS

SPRING-GX Fellowship (次世代研究者挑战)	*JST(日本科学技术振兴机构), 2022-2025*
Second Price, The Creative Founder Award (发明创业奖二等奖)	*Association of Inventions (中国发明协会), 2021*
Bronze Award, The Challenge Cup (挑战杯铜奖)	*Guangdong (广东省), 2020*
Student Travel Award (学生旅行奖)	*IEEE ICDE, 2019*
Dean Scholarship (院长奖学金)	*Shuli College@SUSTech (南方科技大学树礼书院), 2018*
Outstanding Freshmen Scholarship (新生奖学金一等奖)	*SUSTech(南方科技大学), 2015*