Chuang Yang

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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 — Asano, Japan
Supervised by Prof. Toyotaro Suzumura

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

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 (ECML/PKDD 22,21), Grid-level (TIST 22, TKDE 21), Individual-level (SIGSPATIAL 20)

Selected Research Papers

- **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**)*, Apr. 2022. [pdf] [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]
- Zipei Fan, **Chuang Yang**, Zhiwen Zhang, Xuan Song, Yinghao Liu, Renhe Jiang, Quanjun Chen, Ryosuke Shibasaki. Human Mobility based Individual-level Epidemic Simulation Platform. *ACM Transactions on Spatial Algorithms and Systems (**TSAS**)*, Mar. 2022. [pdf]
- Qi Cao, Renhe Jiang, **Chuang Yang**, Zipei Fan, Xuan Song, Ryosuke Shibasaki. MepoGNN: Metapopulation Epidemic Forecasting with Graph Neural Networks. *Proc. of the 26th European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (**ECML/PKDD**)*, Sep. 2022. [pdf]

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

LocationMind Inc. Apr. 2020 – Apr. 2022
Research Intern (Part time) 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. Jul. 2018 – Oct. 2018
Software Engineering Intern (Full time), supervised by Dr. Yilun Cai 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 Oct. 2017 – Jul. 2019
Undergraduate research assistant (Part time), supervised by Prof. Bo Tang 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 Engineering Reports 2022
- Reviewer for IEEE TITS 2021
- Subreviewer for ACM SIGSPATIAL 2021,2022

SKILLS

- **Languages**: Python, JavaScript(ReactJS, JQuery), HTML/CSS, SQL, Java, Scala
- **Data Visualization Tools**: Leaflet.js, Deck.GL, Recharts, Material-UI, D3.js
- **Big Data Processing Tools**: Apache Spark SQL
- **Data Exploration Tools**: Lux
- **Development Framework**: Django (Python), Flask-RESTful (Python), Play (Scala)
- **Others**: Elasticsearch, Linux Commands