

## Alex (Geng) Tian

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## EDUCATION

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### University of Victoria

Sep. 2023 - Aug.2024 (expected)

- Degree: MEng in Applied Data Science (BCPNP major, Computer Science Department)

### University of Iowa

Aug. 2019- May. 2021

- Degree: M.A. in Geographic Information Science (Advisor: [Caglar Koylu](#))
- Courses: Algorithm, Operating Systems, Introduction of Software Engineering, High Performance and Parallel Computing, Introduction to Geospatial Programming, Introduction to Database.

### Wuhan University

Sept. 2015- Jun. 2019

- Degree: B.S. in Geographic Information Science
- Courses: Data Structure, Linear Algebra, Discrete mathematics, Database Systems, Program design and Development in C, Program design and Development in C++

## WORK EXPERIENCE

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### Software Development Engineer (Level 6)

Aug. 2021- Aug. 2023

Company: **Meituan** Group: *Meituan Autonomous Driving* Location: *Beijing, China*

- Develop and maintain on-the-air increment map update system of Autocars (Meituan Autonomous Delivery system). Guarantee the team goal of updating P0 level fix to cars in 24 hours (from map building to publish). Used skills: vehicle status and task rolling development in **Python**.
- Design and develop the High Definition (HD) Maps automatic publish pipeline to reduce the human involved time from 2.5 hours to 0. Used skills: **SpringBoot**
- Build and maintain **REST API** service of HD Maps. Support the spatial queries from lower-level systems. Participate in the API project of Address Matching, helping vehicle delivery system map its user input addresses to points of interests (destination of user's order). Current matching precision is more than 98%. Used skills: **SpringBoot, MyBatis**
- Design and develop HD Map simulation (CI) system, which is integrated to map publish steps and discover underlying map deficiencies before it is released to cars. Build tools to optimize the efficiency of case analysis by enabling web replay of case scenario, accident special clustering and reasoning, etc. Used skills: **SpringBoot**
- Design and develop the map management website to improve the efficiency of management of map meta info, vehicle update status monitor, and POI visualization, etc. Used skill: **React, Ant Design**

### Software Development Engineer (internship)

Jun. 2020- Aug.2020

Company: **ESRI** Group: *Online Feature Service* Location: *Redlands, CA, USA*

- Maintain **REST APIs** of ArcGIS Online in terms of spatial query, feature editing, etc. Used skills: **C#** backend programming.
- Engaged in development of **Azure Cloud cache** system of ArcGIS Online. Cache frequently used geo-features to reduce the overloads of backend database by using ceiling method.
- Develop and maintain API of fetching map tiles of ArcGIS Online base map.

## PUBLICATION & PROJECT

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### FlowMapper.org: A web-based framework for designing origin-destination flow maps.

Authors: Koylu, C., **Tian, G.**, & Windsor, M. Published on: *Journal of Maps* (2022). [Click to read paper.](#)

- [FlowMapper](#), an efficient web tool visualizing flow map on web. More details in this [YouTube video](#).

### Immuse AI

- [Immuse AI](#), a profitable AIGC tool supporting AI chat and drawing and is used by 2000 users in China. Used skill: **Full Stack Development, TypeScript, React, Redux, TailwindCSS, Redux, SpringBoot, MyBatis, Docker, websocket**

## SKILLS

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- Programming languages: Python, Java, C/C++, JavaScript, TypeScript, C#
- Database: MySQL, PostgreSQL, Redis, Azure Cosmos
- Backend: Spring Boot, MyBatis, Nginx, Tomcat
- Frontend: React, Umi, Ant Design, Tailwinds, Redux, websocket
- Other: Docker, Shell, Git, Linux