



Lu LIU

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Profile

I am a programmer, a GISer and a cartographer. My interests are mainly related to programming and mapping, especially in the areas of network analysis, geospatial data processing and cartographic visualization. Most of my personal projects are open-sourced on Github (<https://github.com/tumluliu>). I will be open to global working opportunities in late 2016.

Skills

Software Development

Python, C, Bash, SQL

R, Javascript

.NET/C#, Java, C++

GIS Training

Quantum GIS, ArcGIS

PostgreSQL/PostGIS

Network analysis

Cartographic Design

CartoCSS

Mapbox Studio, TileMill

CartoDB

Experience

National University of Defense Technology

Lecturer

2/2011-Present

Teaching

1. Geographic Information Systems from 2012 to 2015 for undergraduates
2. Spatial Information Systems from 2012 to 2014 for graduates

Research and Development

Involved in the development of a high-performance GIS platform, namely HiGIS (<http://higis.org.cn/higis-wan>) under the support of "High-performance Geocomputation on Modern Hardware" project. Responsible for:

1. System architecture design
2. RESTful web services for cartographic visualization
3. HPC infrastructure purchasing, administration and maintenance

A brief introduction of HiGIS can be found from the Geocomputation conference paper "HiGIS - When GIS Meets HPC" (<http://goo.gl/ldoZ1G>).

Education

Technische Universität München

Cartography

Dr.-Ing., summa cum laude - 2011

National University of Defense Technology

Information and Communication Engineering

Master of Engineering - 2007

Projects

ongoing

High-performance Geographic Information Systems

National High-tech Research and Development Program of China (863 Program)

Data model and algorithms for socially-enabled multimodal route planning service

National Natural Science Foundation of China (NSFC) project

CartoCSS guide (Chinese version)

Tutorial of cartographic design with CartoCSS as well as the language reference in Chinese. It is an open book published on Gitbook (https://tumluliu.gitbooks.io/carto_zh-cn).

Multimodal route planning in Python

Python package of multimodal route planning algorithms (<https://github.com/tumluliu/pymmrouting>).

Multimodal route planner (mmrp) API service

A JSON-RPC style API web service of multimodal route planning. Visit <http://luliu.me/?p=96> for more information.

Multimodal route planning demo for Munich

An online demo of multimodal route planning service for Munich. Visit <https://github.com/tumluliu/mmrp-web> for more information.

Multimodal route analysis and visualization

A comparative analysis between human trajectories and machine-planned multimodal routes based on crowd-sourced massive GPX data.