Skyler Fu

I am proficient in web front–end technologies and have a dedicated focus and interest in 3D fields

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Personal Introduction

I am currently working as a Senior Front–End Development Engineer at Alibaba – Amap (Gaode map), with 5 years of experience in web front–end development, including 2 years of experience in WebGIS graphics development. During my two years at Amap, I transitioned from front–end development to WebGIS graphics development and actively contributed to the research and development of Amap's GIS engine for the industry. This involved working on 3D data production services, tile access services, custom data transmission protocol A3DTile, and the Unity map rendering engine SDK.

My primary focus is on Web 3D graphics development, but I am also open to challenging opportunities in traditional page development and full–stack development.

Work Experience

2021.4–2023.8 | Alibaba GaodeMap | Senior Front–End Engineer

Front–End Development

GeoHUB Geographic Data Management Platform [Core Developer] https://geohub.amap.com/

Description: Using React.js for UI, amap.js for mapping, one Node.js as BFF, and another Node.js as backend service, with qiankun.js as a micro–frontends framework.

Responsibilities: Interactive vector graphics, drawing, and editing; MVT (Mapbox Vector Tiles) interaction and rendering; history tracking, undo, redo; GIS spatial calculations; data uploading and downloading.

AMapReact: A component library for AMap JavaScript API [Core Contributor] https://jimnox.gitee.io/amap–react/

Responsibilities: The React version of AMap JavaScript API, enabling users to develop map applications in a declarative way.

LocaReact: A component library for AMap Visualization JavaScript API [Core Contributor]

Responsibilities: The React version of AMap Visualization JavaScript API, allowing users to develop map visualizations in a declarative way.

Internal Low–Code Platform Component Library [Early Contributor], Custom development based on AliLowcodeEngine

Responsibilities: Built a component library using git subtree + monorepo structure, to maintain low–code components collectively; developed low–code components for AMapReact and LocaReact.

WebGIS Development

Loca.js: AMap Visualization JavaScript API [Contributor] https://lbs.amap.com/api/loca–v2/intro/

Responsibilities: Contributed to Shader multi–light capability, incremental data source construction, text labeling, and daily issue fixing; Explored the use of Loca with Unity map SDK.

Amap.js AMap JavaScript API [Contributor] https://lbs.amap.com/api/jsapi–v2/summary/

Responsibilities: Contributed to Editor/MouseTool merge, map visualization configuration VisualPlugin, and fog effect for Three.js objects when rendering with amap.js; Explored the implementation of A3DTile rendering in amap.js.

Data Visualization Dashboard for National Day Travel Season in 2021/2022 [Core Developer]

Description: An annual data visualization dashboard for the travel season, mainly using loca.js to present data with various visualization layers based on data types.

Responsibilities: Developed animation timeline library to facilitate timeline arrangement for multiple cities, scenes, and layers; worked on data visualization for the dashboard.

Unity GIS Engine Development

A3DTile Custom Data Transmission Protocol [Creator]

Description: Developed a custom data transmission protocol considering data security and transmission performance requirements.

Responsibilities: Designed A3DTile data parsing, supporting PB compression, quantization compression, batch and feature–based data organi zation; supported on–demand composition and dynamic delivery of 3D data.

A3DTile Data Production and Tile Access Services [Core Developer]

Responsibilities: Developed production and access services using Node.js + BullMQ + OSS + Redis to produce roads, area polygons, 3D buildi ngs, and trees in vector base maps; Used BullMQ for task scheduling, OSS for data storage, and Redis for tile caching.

Unity WebGL Map Rendering Engine SDK [Core Developer]

Description: A WebGL map rendering engine SDK based on Unity URP rendering pipeline, featuring rendering of vector and satellite base map s and running on WebGL with the use of WebWorker for multithreading.

Responsibilities: Developed fundamental features like A3DTile vector base map rendering, quadtree construction and LOD optimization, and ca mera animation; Created a JS Plugin for multi–threaded data processing in Unity WebGL; Developed C# api–generator and JS api–container a s communication bridges between C# and JS, serving as the underlying infrastructure for Unity JS SDK.

2020.4–2021.4 **Meituan** **Front–End Engineer**

Front–end Development

Wanxiang, Machine Learning Platform [Contributor]

Description: A machine learning pipeline orchestration platform, configuring the upstream and downstream relationships of data sources and da ta artifacts, supporting online Python script writing.

Responsibilities: Participated in pipeline orchestration, front–end implementation of data source configuration, and introduced vscode as an onli ne script editing platform.

BIPaaS [Core Contributor]

Description: A project by an interest group aiming to platformize common BI visualization capabilities to help developers quickly implement BI pr oducts.

Responsibilities: Developed the front–end SDK (MVP version) for BIPaaS, enabling rapid chart creation with minimal declarative configuration, supporting React and Vue components.

WebIDE WebIDE Capabilities for Machine Learning Platform [Core Developer], based on the open–source project code–s erver.

Description: This project mainly addresses how to deploy vscode on the web and does not directly involve WebIDE development work.

Responsibilities: Created custom DockerFile to deploy code–server; Developed a Node.js BFF (Backend for Frontend) for permission authentic ation and Docker container management; Solved some issues related to code–server (#1920).

2018.6–2020.4 **Xiaomi** **Front–End Engineer**

Front–end Development

User Growth Analysis System [Core Developer]

Description: An instant analysis system comparable to SensData. The backend adopts OLAP technology to preprocess T–1 user data, and the front–end filters and presents data through charts.

Responsibilities: Developed UI/UX interface using Vue.js + ElementUI; Utilized ECharts for data visualization; Created the front–end single sign –on SDK.

BigData Dashboard Reporting Platform [Core Developer]

Description: A data dashboard platform based on OLAP technology for preprocessed data, allowing users to customize dashboard content and layout.

Responsibilities: Developed UI/UX interface using React.js + Antd; Implemented custom layouts using react–grid–layout; Solved issues related to nested state updates.

Java & Scala Development (Internship)

Java Interface Development Developed RPC interfaces using Java + Thrift, gaining initial knowledge of MySQL, JDBC, Spring MVC, and JVM. Spark Big Data Analysis Performed big data analysis using Spark for creating daily data report emails, gaining initial knowledge of Hadoop, Ma pReduce, Hive, and OLAP technologies.

Community

Links

– github: https://github.com/fxxjdedd
– 知乎: https://www.zhihu.com/people/da-da-92-27
– 掘金: https://juejin.cn/user/4019470240849966

OpenSource

simpe-map https://github.com/fxxjdedd/simple-map
A small front-end project designed for sharing, fully implementing all the capabilities of satellite maps, including satellite image rendering, map interactions, tile loading, and other basic functionalities.
Share Keynote: https://drive.google.com/file/d/1t2GnvODDCi6AORM8DVyufP-b3RTx5v92/view?usp=sharing

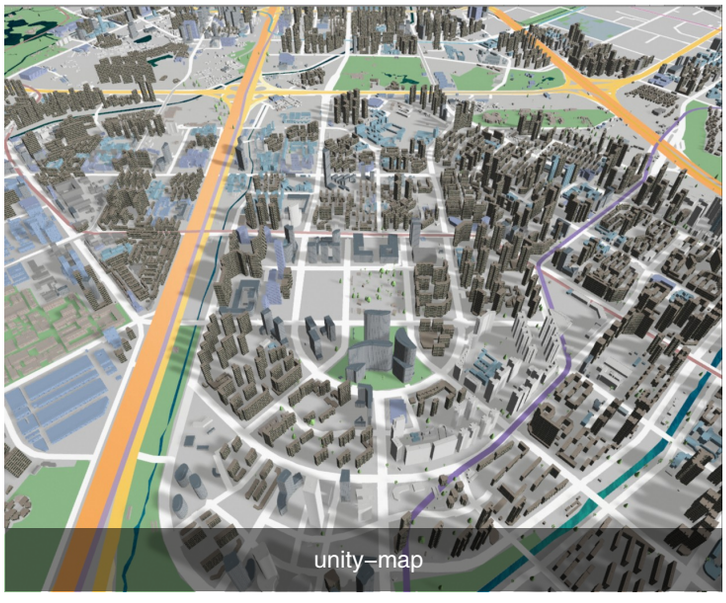
cache-loader-hash https://github.com/fxxjdedd/cache-loader-hash
A fork from cache-loader, used to address the issue of invalidated compilation cache based on mtime during CI/CD deployments by adopting a hash-based approach.

my-awesome-works https://github.com/fxxjdedd/my-awesome-works
A collection of my graphics works.

Education

2014.9–2018.6 | Shandong University of Finance and Economics | Information System（CS Related）

Works


unity-map