Junran Tao
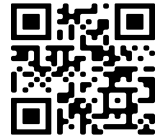
551 359 1768 | jtao11@stevens.edu | LinkedIn | Portfolio | Hoboken, New Jersey

EDUCATION

Stevens Institute of Technology — Hoboken, New Jersey
Master of Science in Computer Science — *Sep 2024 – May 2026*

University of Shanghai for Science and Technology — Shanghai, China
Bachelor of Engineering in New Media Technology — *Sep 2019 – Jun 2023*

EXPERIENCE

EarthView Image Inc. — Chengdu, China
Software Engineer — *Jul 2023 – Jun 2024, Full-time*

- Developed the EV-WebGL 3D visualization platform using Cesium and WebGL, delivering a plugin-free GIS client fully compatible with local environments.
- Implemented a real-time video fusion module that synchronizes live video streams with 3D maps, enabling integrated monitoring and spatial analysis.
- Optimized rendering performance with resource streaming, tile-based loading, and GPU acceleration for smooth large-scale geospatial data visualization.
- Business Impact: Improved 3D scene frame rates by 18% in complex terrain, reduced video sync errors in cross-browser environments, and enhanced stability of large-scale monitoring playback
- Software Tools: Cesium, WebGL, JavaScript, Redis, MongoDB, PostGIS

Yunshang Chuangxiang Intelligent Technology Co. LTD — Shanghai, China
Software Engineer — *Jun 2022 – Aug 2022, Internship*

- Built and deployed a modular data platform supporting CRM features and cultural archives, optimizing queries with compound indexes and Redis caching and enabling keyword search/download of 100,000+ opera scores with full CRUD admin tools.
- Delivered bulk import/export APIs, role-based access control, and 95%+ functional/security test coverage using JUnit, Mockito, and custom cases.
- Business Impact: Improved data accessibility, operational efficiency, and secure multi-role management across business and cultural domains.
- Software Tools: Spring Boot, MySQL, Redis, .NET, SQL Server, Ali Cloud, JUnit, Mockito, REST API

PROJECTS

ConHub Web Application‖*Github* — *March 2025 – May 2025*

- Built a scalable convention management platform with role-based event workflows, personalized recommendations, and real-time social features.
- Optimized performance through multi-layer Redis caching with intelligent invalidation and a custom ImageMagick pipeline, cutting image load times by 50%.
- Enabled a secure payment system allowing attendees to sponsor conventions and organizers to receive funds seamlessly.
- Tech Stack: TypeScript, React, Express, MongoDB, Redis, ImageMagick, WebSocket

Travel Companion‖*Github* — *Oct 2024 – Dec 2024*

- Built a social travel platform with secure authentication, stateless session management, and role-based access control.
- Reduced API response times by 40% via optimized MongoDB queries, compound indexes, and aggregation pipelines.
- Tech Stack: JavaScript, Express.js, MongoDB, Redis, JWT, OAuth, Multer, Sharp

SKILLS

Languages: TypeScript, JavaScript, SQL, C#, C/C++, Java, Python, HTML/CSS, Handlebars

Technologies: React, Node.js, Vue.js, .Net, Next.js, MySQL, MongoDB, Git, Redis, Docker, OpenLayers, Cesium.js

RESEARCH PUBLICATION

Yuebo Luo, Shiyang Li, **Junran Tao**, Kiran Gautam Thorat, Xi Xie, Hongwu Peng, Nuo Xu, Caiwen Ding, and Shaoyi Huang. "**DR-CircuitGNN: Training Acceleration of Heterogeneous Circuit Graph Neural Network on GPUs**" International Conference on Supercomputing (ICS 2025).