**Junran Tao**

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Education

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| **Stevens Institute of Technology**  Master of Science in Computer Science — GPA: 3.8/4  **University of Shanghai for Science and Technology**  Bachelor of Engineering in New Media Technology | Hoboken, New Jersey  Sep 2024 **-** May 2026  Shanghai, China  Sep 2019 **-** Jun 2023 |
| Skills | |
| **Languages:** Python, Java, C/C++, C#, JavaScript, HTML/CSS, SQL, TypeScript, MATLAB  **Technologies:** PyTorch, TensorFlow, OpenCV, scikit-learn, Computer Vision, Graph Neural Networks (GNNs), Model Optimization, GPU Acceleration, Multi-Stream CUDA, Large-scale Data Processing, EDA Applications  Experience | |
| **Stevens Institute of Technology** Hoboken, New Jersey  Deep Learning Research Assistant Sep 2024 **-** Present, Internship  • Optimized GPU-based test software using custom CUDA kernels, achieving 4.8 × training speedup and reduced memory usage.  • Enhanced software performance through GPU profiling and integrated solutions into PyTorch for multi-server deployment.  • Built tools to support testing, validation, and deployment of deep learning models across diverse datasets.  **EarthView Image Inc.** Chengdu, China  Full stack & Deep Learning Engineer Jul 2023 **-** Jun 2024, Full–time  • Developed a deep learning-based real-time video defect detection system using ResNet18 and OpenCV, achieving  82.4% accuracy with CUDA acceleration.  • Developed an advanced training optimization pipeline with CosineAnnealingWarmRestarts and custom logging, boosting model iteration efficiency by 27%.  • Optimized and refactored the authentication system (C, .NET), reducing latency by 30% through caching and lazy-loading.  • Enhanced internal test tools for GIS software, accelerating map load times by 50%.  • Designed a resilient form validation engine to reduce data errors during user testing by 40%.  • Built internal software update modules for GIS deployment environments, automating release propagation across distributed servers.  **Chengdu Yunshang Chuangxiang Intelligent Technology Co.** Chengdu, China  Software Engineer Jun 2022 **-** Aug 2022, Internship  • Implemented scalable microservices architecture with Spring Boot and Spring Cloud, improving modularity and deployment.  • Developed test coverage using JUnit/Mockito, achieving 85%+ unit test coverage for QA reliability.  • Supported CRM system integration with backend services, enhancing production line management tools.  **University of Shanghai for Science and Technology** Shanghai, China  Computer Vision & Software Development Research Assistant Sep 2020 **-** Jan 2022, Internship  • Engineered a flame recognition algorithm (MATLAB) leveraging HSV color space and connected component analysis, boosting detection accuracy under diverse conditions.  • Built and deployed a large-scale Chinese Opera Search System (.NET, SQL Server, Google Cloud) managing 100K+ records with over 95% test coverage.  • Improved computational efficiency for dynamic video feature extraction with low simulation costs, enhancing real-time performance.  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). (Accepted)