

# Jiayi Wang

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## Education

**Georgia Institute of Technology**, Atlanta, GA, USA Expected Dec 2026  
B.S. in Computer Science, Minor in Psychology  
Major GPA: 3.76/4.0 | Dean's List Every Semester

**Tokyo Institute of Technology**, Tokyo, Japan Oct 2024 – Aug 2025  
YSEP Scholar | Graduate Coursework: Distributed Algorithms, Statistical Learning Theory, Computer Vision,  
Complex Networks, Advanced Internet Applications, IoT, Mathematical Theory of Programming, From Data  
Analytics to Machine Learning

## Research Experience

**Tokyo Tech – Slavakis Lab** Oct 2024 – Aug 2025  
Visiting Researcher – Reinforcement Learning, Optimization Advisor: Prof. Konstantinos Slavakis

- Developed normalized Gaussian Mixture Model (GMM) approximations for Q-functions in high-dimensional RL tasks.
- Employed Riemannian optimization to stabilize convergence over complex multi-action state spaces.
- Assessed generalization and convergence stability across diverse continuous control environments.

**Georgia Tech – Autonomous & Connected Transportation Lab** Sep 2022 – May 2024  
Undergraduate Researcher – Driver State Modeling, Deep Learning Advisor: Prof. Srinivas Peeta

- Built CNN-RNN pipelines for real-time drowsiness and emotion detection using audio spectrograms.
- Used inverse reinforcement learning to model driver lane-change decisions from video sequences.
- Applied LLM-based few-shot learning to analyze and enforce traffic rule compliance.

## Software Engineering Experience

**Narwal Robotics** Jun 2024 – Sep 2024  
Software Engineering Intern – Embedded and Mobile Systems

- Engineered accessibility features integrating low-level robot control with Android frontend; improved usability for visually impaired users in production builds.
- Boosted reliability of robot-device pairing by introducing multicast fallback over Bluetooth.
- Built diagnostic tool for real-time monitoring of battery and sensor states across distributed systems.

**AI-Powered Digital Painting Platform (Startup)** Feb 2023 – Sep 2024  
Co-Founder & Full-Stack Systems Engineer

- Designed scalable backend using Django + WebSocket for real-time image generation and two-way transmission.
- Developed load-aware task queue and concurrency safeguards to handle increasing user demand.
- Automated testing and deployment pipelines; integrated secure file routing and cloud storage systems.

## Technical Projects

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### Scalable Task Dispatcher

Systems, Infrastructure

Designed a distributed task queue with resource-aware GPU job routing, retry strategies, and health checks.

### Neural Machine Translation (PyTorch)

NLP, Deep Learning

Implemented Seq2Seq translator with attention for English–Spanish corpus; tuned LSTM layers to improve BLEU scores.

### Game Development

- Android Dungeon Escape Game: Led development & Git management (Java, Kotlin).
- JavaFX-Based Wordle Variant: Supported custom word libraries (Java).
- GBA Flappy Bird Clone: Optimized rendering & collision detection (C, GBA).

## Technical Skills

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**Languages:** Python, Java, C/C++, JavaScript, SQL, Bash

**Frameworks/Tools:** PyTorch, TensorFlow, Django, Websocket, Docker, Git, OpenCV, Pandas, scikit-learn, Linux

**Topics:** Reinforcement Learning, Deep Learning, Probabilistic Modeling, NLP, Distributed Systems

## Language Skills

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**English:** Near-native (TOEFL 116/120)

**Japanese:** Business-level (JLPT N2)

**Chinese:** Native