

# Tony Wang

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## EDUCATION

### **Yale University**

*Bachelors of Science in Computer Science*

*Expected May 2026*

**Relevant Coursework:** Building Big Data Systems, Building Distributed Systems, Introduction to Computer Vision, Systems Programming, Object-Oriented Programming (OOP), Data Structures, Algorithms, C++ Programming, Discrete Math, Linear Algebra, Applied Planning and Optimization.

**Study Abroad:** Studied Japanese at International Christian University in Tokyo for one academic year.

## EXPERIENCE

### **Software Engineering Intern, DevOps**

May 2025 – August 2025

*Seagate Technology*

*Minneapolis, MN*

- Shipped an enterprise-wide Kubernetes observability platform using Python and JavaScript, enabling proactive detection of incident related downtime for **60+ business-critical applications**.
- Wrote API services to expose real-time compute utilization data, **eliminating manual ops** for horizontal scaling.
- Engineered an infrastructure cost optimization app used by **500+** global on-prem system engineers **every day**.

### **Computer Graphics Research Intern**

June 2024 – August 2024

*Yale University Computer Graphics Group*

*New Haven, CT*

- Assisted in the development of a U-Net CNN to enable real-time deformation of clothing on 3D human models.
- Implemented an image inspection and editing program, resulting in a **30% reduction** in data preprocessing time.
- Wrote scripts to generate **2000 ML artificial training images** in Blender, diversifying the ML dataset.

### **Software Engineering Intern**

February 2024 – June 2024

*Mathmaji*

*Tokyo, JP*

- Developed a full-stack JSON generator, **replacing a 4 step lesson creation pipeline** for mobile education app.
- Spearheaded development of a read-write file explorer, utilizing graph algorithms for **2x faster data transfer**.
- Built a suite of bulk action UI components to automate manual work, **making management tasks 35% faster**.
- Implemented dynamic quiz modals that adapt to usage behavior, **boosting in-app feedback rate by 40%**.

### **Software Engineering Intern**

January 2024 – March 2024

*University of Tokyo Information Science and Technology Department, LiLab*

*Tokyo, JP*

- Developed a LLM-KG chatbot, achieving a **ROUGE-L score increase of 18%** compared to non-KG methods.
- Optimized a D3.js hover tooltip feature with caching, **optimizing AuraDB queries** from  $O(n \cdot f(n))$  to  $O(f(n))$ .
- Built an interactive D3.js force-directed concept graph visualization program that reacts to chatbot state changes.

## PROJECTS

### **Here | Swift, RealityKit, Node.js, Express.js, MongoDB**

January 2025 – May 2025

- Led front-end engineering of an AR social media application where 3D messages are linked to geo-coordinates.
- Built RESTful API endpoints and MongoDB schemas to support transmission and storage of audio data chunks.
- Designed component hierarchy to ensure reliable tap detection by aligning hit-test regions with layout bounds and fixing event propagation issues.

### **DPNN AllReduce | C++, Python, CUDA API**

October 2024 – December 2024

- Implemented an All-Reduce algorithm to distribute neural network gradients across multiple GPUs, achieving a **45% reduction in communication overhead** over the naive method on partitioned MNIST datasets.
- Deployed the Multi-Layer Perceptron ML model with a data-parallelized architecture on a real distributed system to reach a **3x speedup in training time** compared to non-parallelized approaches.
- Leveraged mini-batch stochastic gradient descent (SGD) for stable convergence to minimize computation time.

## TECHNICAL SKILLS

**Languages:** Python, C++, C/C#, Go, Rust, TypeScript, JavaScript, Swift, Java, SQL

**Frameworks and Libraries:** React, Next.js, Node.js, Express.js, Flutter, Flask, Bootstrap, D3.js, MongoDB

**Developer Tools and OS:** Kubernetes, Ansible, Docker, Android Studio, Xcode, Git, Prometheus, Grafana, Linux