

# Tianchang Liu

## Senior Senior Machine Learning Engineer

### SUMMARY

Senior Machine Learning Engineer with a decade of experience, excelling in AI/ML systems, MLOps, and infrastructure scalability. Proven capability in deploying models on edge devices, creating efficient cloud pipelines, and ensuring production-readiness with advanced monitoring solutions. Technical adeptness spans across Python, C++, and cloud platforms (AWS, GCP, Azure), with hands-on expertise in frameworks like PyTorch, TensorFlow, ONNX, and Kubernetes for model deployment and orchestration. Holds a solid educational background with a Master's in Mathematics and Computer Science from USC and a Bachelor's in Computer Science from Tsinghua University. Demonstrates a strong record of achievements in optimizing computer vision models for retail, designing decentralized ML infrastructure, implementing scalable AI pipelines, ensuring system reliability, and advancing sales analytics & forecasting methodologies.

### TECHNICAL SKILLS

<b>Main Technical Skills</b>	Python, MLOps, Azure VM, Snowflake
<b>Programming Languages</b>	Go, Java, Python, Rust, Scala, TypeScript
<b>AI &amp; Machine Learning</b>	Amazon Machine learning services, Apache Mahout, AWS SageMaker, Hugging Face, LangChain, LlamaIndex, NumPy, PandasAI, Scikit-learn, TensorFlow, Xgboost, YOLOv8
<b>C++ Frameworks</b>	Boost
<b>C++ Libraries and Tools</b>	C/C++/C#
<b>Python Frameworks</b>	Django REST framework, FastAPI, Flask
<b>JavaScript Frameworks</b>	Express, Node.js, React, three.js
<b>Go Frameworks</b>	Gin
<b>Go Libraries and Tools</b>	Gin, Libp2p
<b>Python Libraries and Tools</b>	NumPy, Scikit-learn, TensorFlow
<b>UI Frameworks, Libraries, and Browsers</b>	Semantic UI

<b>Java Frameworks</b>	Spring
<b>JavaScript Libraries and Tools</b>	three.js
<b>Data Analysis and Visualization Technologies</b>	Apache Mahout, Databricks, ETL Pipelines, PandasAI
<b>Databases &amp; Management Systems / ORM</b>	AWS DynamoDB, Cosmos DB, MongoDB, Neo4j, PostgreSQL, Snowflake
<b>Amazon Web Services</b>	AWS Boto3, AWS DynamoDB, AWS EC2, AWS S3, AWS SageMaker
<b>Azure Cloud Services</b>	Azure VM, Cosmos DB, Databricks
<b>Deployment, CI/CD &amp; Administration</b>	Active Directory
<b>Message/Queue/Task Brokers</b>	Celery, Kafka, RabbitMQ
<b>SDK / API and Integrations</b>	Facebook API, FastAPI, Google API, Slack API
<b>Mail / Network Protocols / Data transfer</b>	GRPC
<b>BlockChain and Decentralized Software</b>	Hardhat, Tokio
<b>Logging and Monitoring</b>	Prometheus
<b>Methodologies, Paradigms and Patterns</b>	SOLID
<b>UI/UX/Wireframing</b>	STL
<b>Virtualization, Containers and Orchestration</b>	Terraform
<b>Platforms</b>	Unity
<b>Other Technical Skills</b>	AD, Blender 3D, InterPlanetary File System, ONNX, Open3d, OpenPyXL, Qdrant, V-ray, Weaviate

## EDUCATION

- **University of Southern California**  
Master of Science in Mathematics and Computer Science  
Aug 2012 - May 2014



- **Tsinghua University**  
Bachelor of Science in Computer Science  
Sep 2008 – Jun 2012

