

Yujia Lin

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Summary

Senior full-stack software engineer with 8+ years of experience in financial services, fintech, and enterprise software, with hands-on AI/ML/NLP engineering in production. Experienced in LLM fine-tuning, conversational AI, and NLU — building systems that serve millions of users at scale. Deep experience in the financial services industry, including IVR infrastructure for large-scale card migrations, payment processing, and operational monitoring. Proven ability to deliver measurable cost savings, reliability improvements, and efficiency gains in regulated, mission-critical environments. Seeking senior engineering or technical consulting roles in financial services or enterprise technology.

Experience

Capital One, Remote — Senior Software Engineer Apr 2023 – Present

Java, Spring Boot, IVR, Omilia, XML, JavaScript, TypeScript, React, Node.js, Chakra UI, PostgreSQL, AWS, OpenShift, Datadog, NLP, Python, PyTorch, LangChain

- Led a team of 5 engineers to fine-tune Mistral-7B on IVR call transcripts using PyTorch, Hugging Face Transformers, and AWS SageMaker; integrated the model into a LangChain-powered chatbot surfacing real-time conversation summaries for 10K+ agents — eliminating caller repetition and reducing handle time.
- Led IVR routing updates for the Capital One BackBook migration, directing 500K+ migrated Discover accounts to Capital One systems with zero service disruption; resolved edge cases and regressions across teams to ensure data accuracy and call routing integrity throughout a high-stakes financial migration.
- Drove FrontBook migration by enhancing IVR logic to detect Capital One application IDs, enabling automatic mid-call routing of FrontBook customers without manual intervention; delivered on-time with no customer-facing incidents.
- Designed and implemented a full-stack IVR monitoring system (Spring Boot + PostgreSQL + React), tracking 6.5M+ monthly calls with real-time alerting, anomaly detection, and call-flow diagnostics — reducing mean time to resolution for production incidents.
- Delivered a self-service IVR integration for Customer Protection Services, projected to save \$200K+ annually in OPEX by automating manual agent workflows across high-volume fraud and dispute queues.
- Led a team of 3 engineers to architect and deploy Kafka-based event logging services and AWS-hosted dashboards; improved operational observability, enabling faster root-cause analysis across distributed financial service systems.
- Modernized IVR architecture by migrating legacy VXML modules to Omilia Cloud Platform with RESTful APIs, improving customer routing efficiency by 20% and reducing system maintenance overhead for a mission-critical financial contact center.
- Expanded Omilia Cloud IVR to support Spanish NLU, driving a 4% increase in self-service utilization and reducing demand for live Spanish-speaking agents — directly improving accessibility and operational cost efficiency.
- Built and maintained high-reliability services processing millions of customer interactions per month, applying engineering best practices (code review, CI/CD, blue-green deployments) to meet uptime and quality expectations in a regulated financial environment.
- Created and deployed a GitHub Actions bot on OpenShift to enforce CI/CD policies, automate PR workflows, and improve engineering velocity across multiple cross-functional teams.

Pathway Labs, San Francisco, CA — Full-Stack Software Engineer Feb 2023 – Apr 2023

TypeScript, Node.js, React, Next.js, MongoDB

- Enhanced the Student Information System (SIS) admissions dashboard, improving front-end performance and data presentation to help administrators review and process student applications more efficiently.

- Reduced application page load times by 10%, directly speeding up the admissions workflow for admin users managing high volumes of student records.

BunBao.com, Fremont, CA — Full-Stack Software Engineer

May 2019 – Dec 2022

JavaScript, Node.js, GraphQL, React, React Native, MongoDB, AWS, ERP

- Architected and built a custom ERP system (Express.js + GraphQL + MongoDB + React + AWS) from scratch to manage purchasing, HR, and inventory across a multi-location food business, replacing manual spreadsheet workflows and enabling data-driven operations.
- Designed financial data workflows within the ERP including purchase order tracking, vendor payment reconciliation, and cost center reporting — providing real-time visibility into company financials.
- Scaled the engineering team from 1 to 4 developers; established Git branching strategy, code review standards, and CI/CD pipelines that increased deployment frequency and reduced bugs in production.
- Led development of a React Native mobile tool that digitized kitchen and delivery operations end-to-end, increasing task throughput by 70% and reducing order errors.
- Led the team to develop the BunBao Food Truck app, enabling customers to order ahead and allowing the company to manage its food trucks efficiently; contributed to the company securing investment and funding by demonstrating technology-driven scalability.
- Integrated Square payment APIs and optimized the checkout pipeline, improving transaction reliability and reducing payment failure rates; improved transaction throughput by 50%.
- Improved user onboarding UX, reducing sign-up steps by 80% and significantly increasing customer conversion rates.
- Built a WorkWave-integrated real-time delivery tracker with customer notifications, reducing inbound support volume and improving customer satisfaction.
- Engineered robust third-party vendor data pipelines with retry logic, idempotency, and concurrency control — ensuring data consistency across external integrations.

WiFrost, Remote — Full-Stack Software Engineer (Part-Time)

Apr 2021 – Jul 2021

JavaScript, Node.js, MongoDB, Go, Terraform

- Developed an IoT-focused speed test service to monitor network performance and assist customers in improving connection stability.
- Automated cloud resource provisioning for Magma Core deployments with Terraform, reducing setup time by 50%.

Menupedia, San Francisco Bay Area, CA — Co-founder & Full-Stack Software Engineer June 2018 – May 2019

Node.js, REST, Angular (TypeScript), MongoDB, Square, Ionic, Python

- Built and launched a digital ordering system, reducing table turnover time by 20% and replacing paper-based workflows.
- Expanded a portfolio of restaurant customers in both the Bay Area and Tucson, driving early product adoption.
- Operated a local delivery service using the software in Tucson, consistently earning top customer satisfaction ratings.
- Graduated from Y Combinator Startup School, Class of 2018.

The BIO5 Institute, Greater Tucson Area — Full-Stack Software Engineer (Part-Time) Nov 2017 – May 2018

JavaScript, Angular, Django, PostgreSQL, Python

- Developed and optimized Angular web application for hospital psychiatry with Django backend.
- Optimized questionnaire form submission speed by 20%.

Tinydust, Hangzhou-Shaoxing Metropolitan Area — Full-Stack Software Engineer (Intern) Jul 2017 – Aug 2017

Node.js, JavaScript, Vue.js, MongoDB, AWS, Electron

- Developed a distributed file delivery tool using AWS S3 to serve customer assets at scale, improving content availability and user experience reliability.

- Built an analytics dashboard (Vue.js + MongoDB) surfacing per-customer revenue, traffic, and conversion metrics — giving clients their first real-time view into platform earnings and enabling data-driven decisions.

Skills

Languages: JavaScript, TypeScript, Java, Python, C, Go

AI/ML: PyTorch, Hugging Face Transformers, LangChain, NLP, LLM Fine-Tuning, AWS SageMaker, NLU, Conversational AI, OpenAI Realtime API

Frameworks & Libraries: React, React Native, Node.js, Next.js, Spring Boot, Express.js, Fastify, GraphQL, REST APIs, Angular, Vue.js

Data & Messaging: PostgreSQL, MongoDB, Apache Kafka, AWS S3, ETL pipelines, event-driven architecture, WebSocket

Cloud & Infrastructure: AWS (EC2, S3, Lambda, CloudWatch), GCP, OpenShift, Kubernetes, Docker, CI/CD, GitHub Actions, Datadog, Terraform

Financial & Enterprise: IVR systems, Omilia Cloud Platform, ERP development, payment processing (Square, Twilio), contact center technology, high-availability distributed systems

Certifications & Memberships: AWS Certified Solutions Architect – Associate; Senior Member, IEEE; Member, Cloud Native Computing Foundation (CNCF)

Projects

Omilia IVR Dashboard

2024

Spring Boot, React, PostgreSQL, AWS, Kafka

Designed and built an internal production monitoring platform for IVR call infrastructure at Discover Financial Services, tracking 6.5M+ monthly customer interactions across self-service flows including pay-by-phone, dispute filing, fraud reporting, and account inquiries. The dashboard surfaces real-time API call error rates, call-flow drop-off points, and anomaly alerts — giving operations and engineering teams immediate visibility into service degradation and customer impact. Enabled significantly faster incident detection and root-cause analysis, improving SLA adherence and reducing escalations across a mission-critical financial contact center.

BunBao ERP System

2020

Express.js, GraphQL, MongoDB, React, AWS

Designed and built a custom ERP platform from scratch to support a multi-location food business serving 20K+ customers, processing 2K+ daily delivery boxes, and managing 100+ employees. The system became the operational backbone used by staff daily — covering purchasing, HR, inventory, vendor payment reconciliation, and cost center reporting. Replaced all manual spreadsheet workflows with automated, real-time financial and operational data, enabling leadership to make data-driven decisions and providing auditable records that supported company growth and investor due diligence.

Menupedia Digital Ordering Platform

2018

Node.js, Angular, MongoDB, Square, Ionic, Python

Co-founded and launched a digital ordering and delivery SaaS platform for restaurants, reducing table turnover time by 20% and eliminating paper-based workflows. As co-founder, wore multiple hats — designing the product, building the full stack, onboarding restaurant clients in the Bay Area and Tucson, and running a live delivery service on top of the platform. The hands-on customer-facing experience provided deep insight into real operator pain points and shaped the product roadmap. Integrated Square payment processing for reliable transactions. Graduated from Y Combinator Startup School (2018).

Education

San Francisco Bay University, Fremont, CA — M.S. in Computer Science, GPA: 3.95/4.0 Sept 2021 – Dec 2022

Honors & awards: President's Scholarship (Sep 2021)

University of Arizona, Tucson, AZ — B.S. in Computer Science
Honors & awards: Dean's List (Dec 2016)

Aug 2015 – May 2018