


# Toshiki Matsukuma

Full-Stack Engineer | Frontend Tech Lead

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 Available immediately

## PROFESSIONAL SUMMARY

Full-stack engineer with 7+ years of experience and a proven track record as frontend tech lead. Led a 10-person team for 2 years, exhaustively mapping business flows to eliminate spec gaps and prevent rework through skill-based task assignment. Expert in TypeScript/React/GraphQL/NestJS with strong design pattern discipline (Specification, State Machine, Command patterns). In manufacturing SaaS, designed offline-resilient auto-save using Service Worker and browser-level APIs for factory floor environments. Currently building Python microservices with Celery distributed task processing, observability-first schema design, and FSM-based state management; also responsible for infrastructure (Docker Compose deployment, GitHub Container Registry, React dev environment setup). Fluent in English (TOEIC 960, IELTS 7.0, Cambridge exchange), Mandarin Chinese (HSK 6), and Japanese (native). University of Tokyo graduate with exchange studies at Cambridge and Toronto.

## CORE COMPETENCIES

- ▶ Design Pattern Discipline
- ▶ Schema & API Design (GraphQL)
- ▶ Frontend Architecture (React)
- ▶ Distributed Systems (Celery)
- ▶ Infrastructure & DevOps
- ▶ Team Leadership & Spec Ownership

## TECHNICAL SKILLS

### Languages

TypeScript (4+ yrs, expert) · JavaScript (5+ yrs) · Python (2 yrs) · SQL (5+ yrs, CTE optimization) · PHP (1 yr)

### Frontend

React (4+ yrs, architecture) · Apollo Client · React Hook Form · MUI · dnd-kit · Storybook · Next.js · Vue.js · CSS Grid/Subgrid

### Backend

NestJS · GraphQL · FastAPI · Celery · Node.js · Express · Prisma · CASL

### Cloud & Infra

AWS (ECS, Lambda, S3, SQS, EventBridge) · Docker · Redis · Firebase · GCP · PostgreSQL (generate\_series, CTE)

### Testing & Quality

VRT (Storybook + storycap + reg-suit) · Playwright · Vitest/Jest · SonarQube · React Testing Library

**PROFESSIONAL EXPERIENCE****Backend Engineer (Design 100%, Implementation ~100%)****Apr 2025 – Sep 2025***AI Translation SaaS Startup — Tokyo, Japan*

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- ▶ Designed and implemented translation post-validation microservice using a 9-state finite state machine, automating quality check → re-translation loops with max 5 cycles and guaranteed termination
  - ▶ Built immutable event sourcing layer recording all state transitions and decisions; designed observability-first schema enabling real-time AI dashboard monitoring
  - ▶ Architected asynchronous polling system (30s intervals × max 60 retries) with 4-tier error classification (transient/permanent/business/unknown), ensuring non-blocking fault handling
  - ▶ Documented design rationale comparing FSM vs status flags vs workflow engine approaches with tradeoff analysis
  - ▶ Evaluated AI testing tool (agent-browser) reliability limits systematically, establishing staged test strategy: manual spec verification → E2E automation → AI-assisted testing
  - ▶ Delivered production microservice with observable schema, reducing AI dashboard verification overhead significantly

**Technical Consultant (Solo)****May 2025 – Jul 2025***Mid-size Online Learning Platform — Tokyo, Japan*

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- ▶ Quantified code quality of VBScript/Oracle legacy system using SonarQube static analysis, comprehensively analyzing bugs, code smells, duplication, test coverage, and technical debt
  - ▶ Established objective quality evidence with reliability ratings to support strategic decision-making
  - ▶ Built RAG-based internal document search using NotebookLM + markdown in ~2 weeks, enabling natural language cross-department search over PDF/Word/Excel documents
  - ▶ Evaluated custom RAG vs SaaS RAG (NotebookLM), choosing SaaS leverage as rational under 2-week constraint
  - ▶ Designed 3-option comparison matrix across 7 evaluation axes with decision tree, creating a framework enabling executives to make informed decisions independently
  - ▶ Led approval of React Chrome Extension as short-term strategy; positioned ERP migration as separate long-term budget initiative

**Organizational Development Advisor****Apr 2025 – Jul 2025***AI Translation SaaS Startup (Separate Contract) — Tokyo, Japan*

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- ▶ Structured 100 organizational hypotheses using MECE framework, prioritizing with 5-axis weighted scoring (delivery impact weighted 0.4) to identify 8 critical challenges
  - ▶ Objectified priority ranking of 27 improvement initiatives using Excel scoring functions, replacing subjective judgment with reproducible, data-driven decision framework
  - ▶ Designed 6-phase × 3-week improvement roadmap with monthly KPI monitoring, ensuring sustainable change beyond one-time fixes
  - ▶ Created 2-part executive proposal (23 analysis + 10 recommendation slides), translating technical debt into Quality/Cost/Delivery business impacts for non-technical executives

- ▶ Evaluated Jira, Asana, Linear, and Notion across 5 criteria, recommending Jira as unified project management platform
- ▶ Secured COO approval for PoC execution and Jira adoption in a single executive meeting

## Full-Stack Engineer (Lead Designer & Implementer)

Oct 2024 – Mar 2025

*Manufacturing SaaS Startup — Tokyo, Japan*

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- ▶ Designed and implemented RFC5545-compliant recurring task engine resolving conflicting requirements (unlimited future display vs audit trail compliance) using hybrid materialization: real records + virtual projections merged via SQL CTE chain; documented design rationale in specification and retrospective
  - ▶ Evaluated SQL-level merge vs application-layer approach; chose SQL for single-source-of-truth consistency and documented rationale
  - ▶ Architected 3-axis access control model (role × resource scope × action) combining RBAC + ReBAC patterns with deny-by-default evaluation and hierarchical scope inheritance; verified across 30+ use cases with comprehensive design document
  - ▶ Compared RBAC-only and ABAC alternatives; facilitated team consensus on hybrid approach's fit for multi-tenant operations
  - ▶ Reduced rendering time by 70%+ through React DevTools Profiler-driven analysis, applying targeted React.memo/useMemo only to measurably expensive components
  - ▶ Built Google Calendar-style task UI from scratch without third-party calendar libraries: custom packing algorithm for overlapping task layout, 3/4/7-day views, drag-and-drop rescheduling, and mobile-optimized UI for factory floor use
  - ▶ Implemented field-level auto-save on blur with command-as-data pattern and automatic retry queue for unreliable factory Wi-Fi environments

## Frontend Tech Lead (10-person team)

Oct 2022 – Sep 2024

*HR Consulting Listed Subsidiary — Tokyo, Japan*

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- ▶ Served as sole backend team liaison, exhaustively identifying spec edge cases across B2B/B2C applications; designed skill-based task assignments prioritizing team strengths, owning critical-path tasks personally
  - ▶ Designed dynamic form builder enabling HR staff to configure recruitment forms without engineering support, using Specification Pattern with 50+ validation rules in individual classes for easy extensibility
  - ▶ Built shared B2B/B2C form foundation on pnpm monorepo architecture with reactive real-time rendering
  - ▶ Delivered 4 applicant entry flows with 24 input types and multi-page validation, completing within 4-month deadline and receiving high client evaluation
  - ▶ Implemented dashboard with per-widget independent data fetching, loading states, and error isolation using Suspense + ErrorBoundary; custom Masonry grid with drag-and-drop reordering via dnd-kit v6
  - ▶ Built visual regression testing pipeline: Storybook + storycap + reg-suit + GitHub Actions; 264 stories captured in parallel with 0.1% pixel diff threshold, results auto-posted to PRs
  - ▶ Established code review guidelines, automated dependency updates (Renovate), and intern mentoring program; embedded VRT culture achieving 100% pre-merge CSS regression detection across 10-person team

## LIFF / React Native / Backend Engineer

Apr 2022 – Sep 2022

*Mobile Order App Company — Tokyo, Japan*

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- ▶ Developed mobile order frontend on LINE LIFF (React) with LIFF SDK integration
  - ▶ Built cross-platform native app using React Native / Expo
  - ▶ Developed GraphQL backend with Node.js / Express / Hasura

## Frontend / Backend Engineer

Mar 2022 – May 2022

- ▶ Developed frontend features with Next.js / TypeScript
- ▶ Built backend APIs with NestJS / GraphQL
- ▶ Contributed to paperless board meeting management and digital minutes system

## Freelance Frontend Engineer

May 2021 – Mar 2022

Multiple Clients — Tokyo, Japan

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- ▶ Delivered multiple web applications across React, Next.js, Vue.js, and Remix frameworks
- ▶ Built UI with Tailwind CSS / styled-components; serverless backends with Firebase / Cloud Functions
- ▶ Expanded frontend technology breadth across diverse client requirements

## Data Engineer / Frontend Engineer

Aug 2020 – Mar 2021

Bitkey Inc. (IoT / Smart Lock, ~200 employees) — Tokyo, Japan

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- ▶ Built data pipelines with Python / pandas / BigQuery / GCP for IoT analytics
- ▶ Created analytics dashboards with Google Data Portal for data-driven decision making
- ▶ Contributed to React / TypeScript frontend development

## Frontend Engineer / QA / Operations

Jun 2019 – Jun 2020

Simplex Inc. (Financial Systems, ~1,000 employees) — Tokyo, Japan

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- ▶ Developed and maintained financial web system frontend with Java / JavaScript
- ▶ Designed and executed E2E tests using Autify
- ▶ Operated CI/CD pipelines with Jenkins / ArgoCD; gained financial industry quality standards

## Data Engineering Intern

Jan 2018 – Mar 2019

Graph Inc. (Data Analytics Startup) — Tokyo, Japan

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- ▶ Built text data preprocessing and analysis pipelines with Python / pandas / NumPy / MeCab
- ▶ Designed data warehouse on SQL / Amazon Redshift
- ▶ Created visualization reports; established data analysis workflow foundation

## EDUCATION & CERTIFICATIONS

### Education

#### B.A. in Liberal Arts (Asian & Japanese Studies)

The University of Tokyo · Graduated 2019

### Languages & Certifications

- ▶ TOEIC 960 — Professional working proficiency
- ▶ IELTS 7.0 (Academic) — Cambridge exchange level

**Exchange Programs**

*University of Cambridge · University of Toronto*

- ▶ HSK Level 6 — Chinese proficiency (highest level)
- ▶ Fundamental Information Technology Engineer (IPA, Japan)
- ▶ IT Passport (IPA, Japan)
- ▶ Securities Sales Representative Type 2