

# # Experience

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Overview only. In details of the problems & solutions, [see here\(Japanese\)](#).



## Senior Engineer @Kotoba Technologies

2024/11 ~ now : outsourcing part

Being Developing AI bilingual SpeakToSpeak system.



## Senior Engineer @ Pay, inc

2017/12 ~ 2018/12 : Outsourcing part-time

2018/12 ~ 2024/12 : Full-time

Worked at a online payment provider like Stripe. Developed PCI-DSS compliant APIs (based on python) and SDKs (any major languages). During my tenure, this start-up was listed on the stock market.

### • Platform Service Renewal

2019/01 ~ 2019/10

Replaced old platform service to new one: renewed account tree, data structure.

Met 2 types' needs (marketplace(BtoBtoB) & payouts(BtoBtoC)) and Increased number of new platformers by more than 10 times.

### • JS SDK Renewal

2019/11 ~ 2020/03

Developed a [latest PCI-DSS compliant iframe-type e-commerce JS SDK](#) and [Checkout](#) by Stripe.js reverse engineering.

- Supported all environments (major browser + IE, OS, mobiles, Liff(Line app)) by Playwright + BrowserStack
- Wrote migration guide with [Material Design samples](#), and then all merchants successfully migrated within 1 year.
- Implemented 3D Secure.

### • Automation of Chargebacks (Fraud)

2020/03 ~ 2020/10

Created dispute UI / API in coordination with upstream stakeholders and reduced invoice process by offsetting merchant's balances.

And then changed manually process by back-office members & merchants into automatic flow.

### • Apple Pay

2020/05 ~ 2020/06

Removed forked PyOpenSSL/Cryptography for Apple Pay because they were too old their version one to support latest OS & PCI-DSS. Followed them in the latest version by adding original X509Extension oid/PKCS7/ECDH derivation logic.

- **Maintaining all OSS SDKs**

2020/11 ~ 2024/12

Added new endpoints, new logic(rate-limit, 3D Secure, etc...) and improved interfaces (especially Go SDK renewal) for the following SDKs as a full maintainer.

- [Swift](#) / [Kotlin](#) / [react-native + Expo](#) / [flutter](#) with a mobile expert.
- [Go](#) / [Node.js\(Typescript\)](#) / [PHP](#) / [Perl](#) / [Java](#) / [Ruby](#) / [Python](#) and [Rust](#) (my original, unofficial)

- **Multi-Account Support (like IAM) + Vue.js 2 EOL Support + revamped UI**

2023/02 ~ 2023/07

Improved merchants' dashboard while simultaneously fulfilling the following features/issues (only me).

- i. Added member account object to change 1 account to multi one as a merchant, and then created roles and permissions like IAM.
- ii. Migrated from Vue.js 2 to 3 due to EOL ([with minimum diff](#)).
- iii. Redesigned merchants' dashboard adding the operating history feature for latest PCI-DSS requirements with a designer via Figma.

- **Containerization**

2023/10 ~ 2024/12

Renewed infrastructure on AWS from EC2 to ECS on fargate, and then made easy PCI-DSS audits without OS updates frequently.

- Managed by Terraform and Structured directories using workspaces (multi-provider and module separation) for staging and production.
- Replaced self-managed Nginx+Lua with CloudFront (functions & WAF for path rewrites, security header and rate limit) and used streaming download by CF `transfer-encoding: chunked`.
- Strict outbound policies (all external communication goes through a proxy)
- Switched from Ansible deployment to deployment using Ecspresso.
- Used EKS(Kubernetes) initially with Helm + DevSpace + HorizontalPodAutoscaler + Prometheus + Argo Rollouts. (However, changed to ECS due to the maintaining cost, and so on)



## **Co-founder & Senior Engineer @Nizitsuku**

2019/10 ~ 2019/12 : co-founder (after this 1st release, I left)

Launched a fan-made content marketplace (images, videos, VRMs) as a tech-lead developer with two university student engineers just 1.5 month.

- Implemented a CI/CD pipeline, integrated Trello and GitLab with Slack, and rapidly developed; multi-media uploads, PayPal integration, search engine, and login auth.
- FE: GraphQL, Nuxt.js + BE: gRPC microservices(media processing, storage, dispatcher) by Golang

## Engineer @ Yahoo! Japan

2013/04 ~ 2018/12 : Full-time

### • Company-wide Language (Node.js) Support

2017/09 ~ 2018/12

Supported/trained internal Node.js developers (recommended language in Yahoo! Japan at that time).

- User training sessions : 4 core foundational technologies of Node.js; Modules, Buffer, Events and Stream. (3 hours × 4 sessions, 20 participants per session)  
Due to over-registrations and positive feedback from post-session surveys, we organize recurring sessions and new seminar; Net, TLS, Crypto and fs.
- Consultations for department-specific issues : performance, scaling in a single-threaded, packet loss and memory leaks after switching from PHP, ...etc
- External Public Relations : [Nodefest 2018 session speaker](#), tech blog & external interview, ...etc
- PRs for Node.js : [upgraded documents/code](#) and [fixed bugs](#)

### • DMP (Data Management Platform)

2016 ~ 2018/12

Released new big-data management ETL system for advertising sales enhancement as tech-lead engineer; Team size is 30~ engineers & managers.

- Designed micro-service architecture (like Saga-pattern) of all 9 BE components; Node.js, aglio/drakov
- Developed BE that could concatenate YJ big-data with third-party(advertiser) data and return user-list count within 3~5 second and visualize them like rich BI tool; Hive as ETL, Solr as indexing engine and React + D3 as BI.
- For component integration between UI and BE, I created original syntax similar to Solr using PEG.js for UI efficiency.

### • BT (behavioral targeting) advertising

2013/09 ~

Improved BT machine learning model (earning 1 billion JPY a year); Team size is 5 engineers & managers.

- i. Rebuilt manually operation by reordering the priority of generated metadata (starting with the creative/movie data that had the highest contribution to the model) and increased the number of targetted user list (over 15%).
- ii. Expanded the system by using the new training data of 3rd party, rich advertisement; Hadoop/Hive map-reduce system (1 TB~ daily accesslog as HDFS compression), Gradient boosting model logic, BE/UI (PHP/Perl/Python).

# # Private Outputs

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## ## Web Games

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- [AirPoker](#): A game from a Japanese manga. [Next.js + WebRTC + MongoDB](#)
- [To Court the King](#): A famous board game. [Next.js + WebRTC](#)
- [Slack CodeGolf](#): Node.js + WebSocket + Heroku

## ## OSS Contributions

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- Node.js: [timers](#) and [hidden class optimizations, documentation, etc.](#)
- AI: First release contributions to TextToSpeech [Style-Bert-VITS2](#), [Singing Synthesis NeuCoSVC](#), [kotoba-whisper HF pipeline](#)
- and more...

## ## Side Jobs

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- [Kakekomu \(ST Booking\)](#): Assisted for about a month (Adding Notification, JWT encryption, unit test ...etc).
- [Meetsmore](#): Assisted for about a month (Making ETL system from MongoDB to BigQuery with table/partition design by Digdag)
- Smoothy: A side business with a Googler (sales). A reservation service for restaurants (React Native, service closed)

## ## Others

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- Conference speeches: <https://github.com/darai0512/talks/blob/master/README.md>
- Sales/Distributions:
  - screen animation on OBS for Twitch streaming (js + WebSocket + css)
  - VR accessories created with Blender, AI models(RVC, SD LoRA)
- Hackathons:
  - Domestic: Got the patent (an alarm game on iOS)
  - Taiwan: Participated twice with Taiwanese developers
- Qualifications: Certified Scrum Developer (CSD)