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Sébastien Armand

Principal Software Engineer

With 18 years of experience across startups, agencies, enterprise, and big tech, I've been a tech lead for small teams and large orgs. Strong focus on backend, distributed systems, and scaling infrastructure for high-traffic ecommerce platforms. I've driven billion-scale system redesigns and cross-company replatforming (post acquisition) across self-hosted and AWS environments, blending ops, infra, and product development. At Square, I helped grow products from zero to tens of millions in users and revenue. Having worked in France, China, Canada, and the US, I bring a multicultural view and have mentored engineers across teams and levels.

SQUARE | PRINCIPAL ENGINEER - PRODUCT ENGINEERING | USA

JUNE 2018 - PRESENT

2024 - now | Principal Engineer - Product Engineering

One of 3 principal engineers in Square's product engineering team (over 300 engineers)

- Organized an "unconference" for Square Engineering, bringing together 50 of our most tenured engineers together to address our most pressing issues
- Restarted a long dormant project of migrating Square Online to a common AWS platform with the rest of the company
- Contracted external agency to gradually take over the maintenance of legacy Weebly product and customers
- Prototyped a new reporting platform now being evaluated for company wide adoption

2022 - 2023 | Tech Lead - Square Online

Tech Lead for all of Square Online's product engineering team (100 engineers)

- Transition all (billions) static assets to be served via CDN, drastically improving online store load times for customers all over the world
- Transition core commerce APIs to be cached via CDN and use surrogate keys and tagging to ensure no stale data
- Prototyped and spearheaded the adoption of envoy as a service to service proxy, reducing S2S call latencies p95 by 60ms
- Proposed and initiated project to finalize the Weebly merger by moving all Online solutions to use Square data as a primary source

2018 - 2021 | Tech Lead - Online Store Operations

Tech lead for Square Online's store operation team while we worked on:

- Ongoing microservice migration, moving large functionality away from pre-existing monolith
- Shipping integration. Close partnership with UPS as a preferred partner for shipping orders.
- Fulfillment updates, with the addition of scheduled orders, timed menus, delivery partners (doordash, uber eats)
- Period of hypergrowth and scale during the pandemic, growing 10x in a few months
- Designed and developed advanced caching strategies for APIs essential to our handling of sudden growth
- Proposed, designed and developed a re-architecting of catalog data from MySQL to Elasticsearch, bringing end user latencies p95 down from 20s to 500ms, 40x improvement
- Designed adaptive algorithms that help our systems handle unexpected load in live and async workloads

WEEBLY (ACQUIRED BY SQUARE) | SOFTWARE ENGINEER | USA

MAY 2017 - JUNE 2018

Weebly is a website builder and hosting service. I worked on the team responsible for all e-commerce features of the platform.

- Product Reviews: this was the first project deployed in production on Kubernetes. Also the first microservice broken up from the monolith, setting up the path for how we did microservices.
- Setup the main e-commerce API service for the platform. Still to date the largest of those with thousands of tests, hundreds of contributors, tens of thousands of merged PRs. The early approach, design and leadership were crucial to the long term success of the project.
- Square Catalog compatibility. One of the projects that helped realize the merger between Square and Weebly.

INFO

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San Francisco Bay Area

Born april 23, 1984

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SKILLS

PROGRAMMING LANGUAGES

Go, PHP, SQL, JavaScript, Kotlin

TECHNOLOGIES

Kubernetes, Distributed Systems, MySQL, Memcached, Elasticsearch, RabbitMQ, Envoy, Kafka, Kinesis, SQS, Git, S3, gRPC & protobufs, Cloudflare, Fastly, Datadog, Grafana, DynamoDB, DuckDB

CONFERENCE TALKS

2024 - Laracon US

2023 - Longhorn

BOOK

2014 - [Extending Symfony 2](#)

LANGUAGES

French (native)
 English (fluent)
 Mandarin (fluent)

ON THE WEB

[@khepin](#)

[@khepin](#)

[LinkedIn](#)

Maintain and grow a digital goods marketplace serving over 3 million users. Some major features I worked on were:

- Real time sales dashboard for shop owners
- Shop Updates: a dynamic social feed enabling shop owners to share news about their new and existing products
- Loyalty Program
- Auto-download of purchases to Dropbox
- Purchase search allowing buyers to search and filter through their past purchases
- Support for markdown, video, 3D support to product pages and many customizations to each seller's main shop page.
- Updates to our open API platform for partners

Beyond the projects, I also contributed in other forms to the company:

- Main driver for having automated tests on the main application
- Identifying and resolving high risk application security issues
- Working closely with the support team, ensuring quick responses and a good experience for our customers
- Build and maintain the company's largest search index with real time updates
- Prepared, tested and ran our largest database migrations

SKILLS : PHP, MySQL, SQL Schema and Query optimization, Elasticsearch, Memcached, jQuery, Backbone.js, React.js, Continuous Integration, Unit Testing, Caching strategies, Performance profiling and tuning, DevOps

More past experience available in the

 online version

ECOLE CENTRALE LYON | MASTER IN ENGINEERING | FRANCE

SEPTEMBER 2004 - NOVEMBER 2008

The Ecole Centrale de Lyon is a top 10 engineering school in France.

Third year specialization in Information Technology & Supply Chain Management.

Gap year in 2006 / 2007 split between two internships including my first opportunity to come to China.

Internships and study projects:

- 2008: configure and prepare deployment of an ERP system for Dalkia (heating & cooling management company).
- 2007: participate in an initiative to standardize mobile operating systems for Orange. This initiative is now part of LiMo (Linux Mobile Foundation)
- 2006: implementation and study on CRM (customer relationship management) softwares.
- 2006: network simulation and performance test for a new service discovery protocol for a research team, resulting in the publication of their [research paper](#).
- 2004: study project on creating a portable cancer detection system for general practitioners. Assembly programming of the PIC microcontroller at the heart of the system.