

# Peter Chang

Senior Director — Head of Marketplace Engineering

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## 01 The *thesis*

I architect and scale the *global marketplace, advertising, and data-streaming infrastructure* that moves billions in commerce — and I lead the international teams that build it.

Dynamic, results-driven engineering executive with extensive expertise architecting and scaling global marketplace systems, proprietary advertising engines, and high-volume data-streaming infrastructure. Proven history of spearheading international engineering teams to consistent double-digit revenue expansion and building robust, large-scale architectures from the ground up. A strategic leader dedicated to flat organizational models that accelerate collaborative innovation and swift business delivery. Currently directing initiatives to enhance catalog quality and integrity — ensuring a best-in-class product selection experience for the global marketplace ecosystem.

## 02 Core *competencies*

End-to-End E-commerce Ecosystems

Highly Extensible Global Architectures

High-Volume Systems Engineering

Harness Engineering

Algorithmic Competitive Price Optimization

Strategic Business Data Analytics

Multi-channel Marketing Operations

Brand Incubation

Cross-functional Technical Leadership

Advanced AI Applications

Kafka · Spark · Storm

Cassandra · Elasticsearch · Hive

// LANGUAGES

English    Native / Bilingual

Chinese    Native / Bilingual

## 03 Professional *experience*

### Senior Director, Head of Marketplace Engineering

Oct 2022 — Present

Coupang · Seattle, WA

Direct a multinational engineering organization across the US, South Korea & China, driving the evolution of marketplace services and consistent double-digit annual revenue expansion via a streamlined three-layer flat organizational model.

- Spearhead marketplace growth initiatives in KR & TW, leveraging advanced AI applications ranging from OCR to automated content generation.
- Architected and deployed highly extensible global services engineered for seamless localization and market-specific customization.
- Develop proprietary, customizable AI frameworks tailored for diverse seller categories and complex e-commerce use cases.
- Direct strategic business units: Marketplace Platform (reliability & core architecture), Marketplace Growth (conversion & GMV optimization), and Other Bets (global operations & Travel).
- Drive product quality via cutting-edge automation — intelligent metadata enrichment, image upgrading, and automated description processing.
- Lead algorithmic price optimization to maintain superior competitiveness; launched self-service marketing platforms empowering sellers with automated promotion tools and personalized pricing recommendations.

### Director / Senior Director, Ads Infrastructure

Feb 2020 — Oct 2022

Coupang · Seattle, WA

Led the ground-up architecture of a proprietary advertising engine, scaling the team from 10 to 100+ over three years. Collaborated with business stakeholders to surpass the \$1B revenue threshold in 2022, securing an executive promotion on exceptional technical and commercial delivery.

- Architected the core ML-driven ranking engine orchestrating high-volume pipelines — indexing, pre-ranking, ranking, and complex filtering logic.
- Directed Ads Creatives workflows delivering seamless, optimized UX flows across iOS, Android, and web.
- Engineered real-time financial frameworks for live budget management, advertiser settlements, and ML feature generation for reporting.
- Deployed automated integrity protocols for advanced fraud detection within the ad-serving pipeline.

## Director, Services Platform

Sep 2018 – Feb 2020

Coupage · Seattle, WA

Led the transformation of the Data Services unit into a unified, global Service Platform organization — scaling to 40+ engineers across the US, China & South Korea, delivering critical infrastructure, shared frameworks, and developer-productivity solutions used enterprise-wide.

- Messaging Platform: orchestrated an internal ecosystem processing petabytes of daily data via Managed Kafka, Canal (MySQL sync) & the proprietary 'Roller' pipeline for high-volume S3/HDFS ingestion.
- External Communication: engineered high-throughput notification engines handling millions of daily transactional & marketing touchpoints across SMS, Email, Push, Kakao & Line.
- Weblogging Platform: architected centralized event-tracking processing trillions of signals; deployed Hive & real-time interfaces to empower data-science and discovery ML models.
- Common Tooling: launched a global API Gateway (internal/public), standardized company-wide deployment architectures, and automated AWS resource & cost-optimization frameworks.

## Senior Manager, Data Services

Mar 2017 – Sep 2018

Coupage · Seattle, WA

- Elevated from technical individual contributor to executive leadership, expanding a high-velocity engineering organization from 4 to 20+ members and mentoring multiple line managers within 18 months.
- Architected and deployed 'Lumberjack,' a proprietary full-stack weblogging ecosystem with cross-platform libraries and a high-volume aggregation engine for critical business performance metrics.
- Orchestrated a unified real-time streaming framework on Kafka & Spark, empowering teams to deploy scalable, cloud-managed data pipelines in under sixty minutes.

## Staff Software Engineer, Messaging Services

Nov 2016 – Mar 2017

Coupage · Seattle, WA

- Orchestrated a high-velocity squad of 4 to architect and deploy an enterprise-wide Kafka ecosystem, decommissioning legacy RabbitMQ frameworks within a five-month window.
- Strategic onboarding of the mission-critical Fulfillment & Transportation Service (FTS) to Kafka, validating resilience and reliability for high-throughput transactional order workflows.

## Tech Lead, Transaction Bridge (TxB)

Jun 2015 – Nov 2016

Expedia, Inc. · Bellevue, WA

Technical lead for the Transaction Bridge (TxB) unit, architecting end-to-end order-distribution infrastructure to orchestrate high-volume transactional flows from global brands — Expedia, Hotels.com & Orbitz — for mission-critical downstream consumers.

- Orchestrated multi-organizational support across Finance settlements, Trip Planning, Data Science feature engineering, and advanced Fraud Modeling.
- Architected the TxB stack on Kafka (streaming backbone), Storm (real-time compute), Cassandra & Elasticsearch; deployed a fully containerized architecture via Docker on AWS EC2.

## Senior Software Engineer

Jun 2014 – Jun 2015

Visa · Bellevue, WA

- Architected and managed mission-critical components for the Proxy Connection Service (PCS), a high-performance Java REST API standardizing transaction lifecycles between merchants and financial institutions.
- Engineered a comprehensive logging & validation framework from the ground up at 95% test coverage, clearing rigorous security audits including Fortify and external penetration assessments.

## Software Engineer

Jun 2011 – Jun 2014

SAP Fieldglass · Naperville, IL

- Full-stack engineer architecting enterprise-grade web applications on Java, MySQL & JavaScript alongside critical open-source frameworks.
- Architected and deployed seamless ERP integration modules for tier-1 enterprises — Chevron, Vodafone & Bank of America — via SOAP, REST & SFTP.
- Engineered high-performance SQL optimizations and high-volume transmission protocols for complex reporting cycles, significantly reducing execution latency.

## 04 Personal *product*



PERSONAL PRODUCT · IOS

### Via Journal

An intelligent iOS application leveraging advanced AI to provide personalized journaling feedback and automated narrative synthesis — turning daily entries into reflective, structured story. [via.peter-chang.net](http://via.peter-chang.net) ↗

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05 **Education**

CHICAGO, IL

**Illinois Institute of Technology**

M.S., Computer Engineering

LONDON, UK

**Queen Mary University of London**

B.S., Telecommunication Engineering with  
Management

BEIJING, CHINA

**Beijing Univ. of Posts &  
Telecommunications**

B.S., Telecommunication Engineering with  
Management