Shuhao Pang

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PROFESSIONAL SUMMARY

Full-stack engineer with 5 years of end-to-end ownership across payment infrastructure, multi-tenant platform architecture, and cloud-native systems — progressing from Software Engineer to Senior in 3 years at a high-growth B2B SaaS company. Architected production systems from zero to one, including a multi-tenant membership platform and a high-availability payment infrastructure serving clients such as Statue of Liberty, Niagara Falls, Alcatraz, and San Diego Zoo. Fluent across the full stack (React, Node.js, TypeScript) and deep in AWS serverless. Thrive in fast-moving environments where ownership, system thinking, and shipping velocity matter.

TECHNICAL SKILLS

Languages: JavaScript (ES6+), TypeScript, Java
Frontend: React, Redux, HTML5/CSS3, Responsive UI
Backend & APIs: Node.js, REST, GraphQL, Event-Driven Architecture, Microservices
Cloud & DevOps: AWS (Lambda, DynamoDB, SQS, S3, AppSync, CloudWatch), Terraform (IaC), CI/CD
Data Modeling: DynamoDB Single-Table Design, Multi-Tenant Architecture, Schema Design
Testing & Tools: Automated Integration Testing, Git, Observability Dashboards

WORK EXPERIENCE

Senior Software Engineer · Anchor Operating System *Jan 2024 – Present*

B2B SaaS ticketing & hospitality platform — clients include Statue of Liberty, Niagara Falls, Alcatraz, San Diego Zoo, Toronto Zoo, Maverick Helicopter

- **Membership Platform (0 to 1):** Sole designer and implementer of a multi-tenant Membership Management System serving 10+ tourism properties, supporting 800K+ active memberships and over $100M in annual recurring revenue. Led the full lifecycle — requirements gathering, schema design, implementation, and zero-downtime production rollout via a versioned routing layer replacing the legacy system with full backward compatibility.
  - Designed an 8-entity single-table DynamoDB schema managing 7M+ records; utilized 3 GSIs and composite sort keys to support 5+ access patterns, achieving consistent single-digit millisecond (<10ms) query latency.
  - Implemented a 6-phase membership purchase pipeline handling new purchases, renewals, upgrades, and downgrades with deterministic action validation and automated benefit allocation.
  - Built a lazy-evaluation benefit system with configurable accrual rules and expiry-based recovery, eliminating 20+ daily heavy cron jobs and reducing database read load by ~40% while keeping balances always current.
  - Developed cryptographic card number generation using a Feistel cipher with Luhn check digits — globally unique without external coordination.
  - Built an event-driven async processing layer on SQS for purchase orchestration, report generation, and CRM integration.
- **Payment Infrastructure Platform:** Architected a high-availability payment platform integrating Stripe, Chase, and Authorize.net. Implemented idempotent webhook processing and automated fault-recovery, achieving 100% financial data consistency across distributed environments.

- **Serverless Automation Engine:** Owned and built a back-end automation engine for global subscription lifecycle management using AWS Lambda and SQS — eliminating 100% of manual payment failure intervention and supporting a 40–60% increase in transaction volume.
- **Unified Transaction Layer:** Designed a transaction integration layer consolidating fragmented booking flows into atomic, performant service calls, processing 100% of platform orders with improved throughput and stability at peak traffic.
- **Observability Dashboard:** Built a full-stack revenue management dashboard with real-time telemetry, guest analytics, and predictive forecasting — enabling engineering and finance to proactively detect bottlenecks and financial discrepancies.
- **Infrastructure as Code:** Provisioned and maintained cloud infrastructure via Terraform across Lambda, DynamoDB, S3, and AppSync, ensuring reproducible, secure environments aligned with CNCF best practices.

Software Engineer II · Anchor Operating System *Jun 2022 – Jan 2024*

- **Full-Stack State Management:** Engineered a dynamic cart state-management engine enabling real-time API-driven modifications without disrupting the user session lifecycle. Reduced redundant compute cycles through optimized UI-to-API synchronization.
- **Cross-Team Reliability Initiative:** Led the design and delivery of comprehensive automated integration test suites for core API services and SDK components across multiple teams, validating end-to-end system reliability and maintaining 99.9% uptime for critical customer-facing flows.

Software Engineer · Anchor Operating System *Jul 2021 – Jun 2022*

- **Distributed Data Aggregation:** Designed and implemented a centralized itinerary bundling engine aggregating data for 100% of system-wide orders, ensuring consistency across multiple service modules and eliminating data fragmentation.
- **Quality Engineering Foundation:** Built the automated integration testing framework adopted across core API services and SDK components — reducing regression risk and establishing the reliability baseline for platform-wide deployments.

EDUCATION

Master of Science in Information Technology *California Lutheran University | 2019 – 2021*
Graduate Scholarship Recipient

Bachelor of Business Administration in Finance *BNU-HKBU United International College | 2012 – 2016*