Bryan Guzman

Senior Software Engineer

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Work Experience

Check Digit LLC *August 2019 to July 2026*

Senior Software Engineer *2024-2026* **| Software Engineer** *2021-2024* **| Junior Software Engineer** *2019-2021*

- Owned the architecture, design, and implementation of a TypeScript ledger microservice that recorded every transaction on the platform, capturing each payment request and its PayPal or Venmo response. Implemented encryption with Node.js's crypto module to protect financial and personal data in transit and at rest in AWS DynamoDB.
- Led and implemented the redesign of a financial transaction service processing more than $1 billion annually, introducing idempotent request handling that eliminated duplicate customer charges on retried payment requests. Authored the design document, audited all downstream dependencies, presented the approach to the CTO and senior engineering team, and shipped with comprehensive regression tests covering the retry scenarios. Zero production incidents post-deployment.
- Helped take a greenfield multi-tenant, multi-region payment API from initial design to production, enabling regional-bank customers to move funds through PayPal and Venmo. Shaped platform-wide decisions on request handling and service boundaries, and defined the integration contracts, data model, and response guarantees.
- Delivered full-stack features and production fixes across a multi-region, AWS-hosted platform of 100+ TypeScript microservices and an Angular portal, processing millions of payment transactions annually across payment processing, account management, card issuance, reconciliation, and reporting. Worked on a 12-engineer team holding a 90%+ test-coverage standard.
- Diagnosed client-reported production issues using AWS CloudWatch Logs Insights, Firehose, DynamoDB, and Athena, delivering validated fixes backed by automated tests that reproduced the failure scenarios.
- Designed and implemented file-processing services for payment exception handling using AWS S3 event-driven workflows. Collaborated directly with clients to define file specifications and automate exception processing.
- Scoped and prototyped an account updater service to stop recurring payments from failing when customers' cards expire or are reissued. Self-taught the Mastercard ABU and Visa VAU file specifications from scratch and built a working proof of concept that generated the network-compliant request files used to retrieve updated card data.
- Maintained Check Digit's shared ESLint plugin (25+ custom rules enforcing safe service-to-service call handling, payment-data protection, and AWS/DynamoDB usage patterns) and drove its adoption across 100+ service repositories. Migrated the plugin's test suite to Node's native test runner and standardized every rule's public interface.
- Onboarded engineers onto the platform architecture and toolchain, getting new hires shipping production code within their first week.

Mountford Pigott LLP *January 2017 to June 2017*

IT Intern

- Repaired a corrupted Microsoft Outlook database, recovering 800,000+ business-critical emails, and deployed new server infrastructure with automated Veeam backups to improve disaster recovery.
- Assisted in a company-wide security audit following the WannaCry ransomware attack, assessing vulnerabilities and strengthening network security.
- Designed and deployed new server infrastructure to expand storage capacity and implemented automated daily backups using Veeam, improving disaster recovery and minimizing the risk of data loss.

Skills

- **Programming Languages:** TypeScript, JavaScript, SQL, Bash. Familiar with Python, C, C++, Java
- **Backend:** Node.js, Koa, Express, AJV, Microservices, REST APIs, OpenAPI, File Processing, Third-Party Integrations (PayPal, Venmo)
- **Payments Domain:** Payment Processing, Card Issuance, Reconciliation, Card Network Specifications (Mastercard ABU, Visa VAU)
- **Cloud & Infrastructure:** AWS (Lambda, DynamoDB, S3, SQS, CloudWatch, EventBridge, Athena, Firehose, CodePipeline), AWS SDK (v2 & v3), CI/CD, Root Cause Analysis
- **Architecture & Design:** System Design, Distributed Systems, Service Decomposition & Boundaries, Event-Driven Architecture, API Contract Design, Idempotency & Retry Semantics, Fault Tolerance / High Availability, Multi-Tenancy, Multi-Region Systems, NoSQL Data Modeling, Technical Design Docs & Reviews
- **Testing:** Node.js Test Runner, Mocha, Jest, Unit / Integration / Regression Testing
- **Security:** Data Encryption (RSA, AES, OpenPGP), PII / Financial Data Protection
- **Frontend:** Angular, HTML, CSS
- **Leadership:** Mentorship, Technical Leadership, Onboarding
- **Developer Tools:** Claude Code, GitHub Copilot, Git, GitHub Actions, ESLint, Prettier

Education

The University at Albany, Albany, New York | *Graduated May 2019*
Bachelor of Science in Computer Science, cum laude, with a minor in Mathematics and Physics

London South Bank University, London, England | *September 2016 to June 2017*
Study Abroad - Coursework in web development, services, maintenance, security, and network engineering