

Tiffany Timbric (tiffanytimbric@gmail.com)
Enterprise Backend Software Engineer

Overview

A senior enterprise backend software developer passionate about great code. I write mission-critical system backends across many business domains, financial, transportation, telecommunications, e-commerce, defense, etc. Starting at Sun Microsystems, Inc. I assisted their clients in system architecture and methodology, but especially in JEE code quality.

Recently at Amtrak, PayPal, Tendril, Charter Communications, JDA Software Group, I coded Web Services and large data processing optimizing read response time and scalability (#of concurrent requests/second).

10k ft. View of Tiffany's Consciousness

I designed and coded application and persistence systems for JDA Software Group, Tendril, Etilize, Packexpo, and others which handled large databases requiring Map Reduce / Hadoop + Pig Scripts, Cassandra NoSQL per-instances caching, pre-Cassandra custom caching for RedPrairie, distributed file systems, Table Sharding, Master-Slave read-write DB separation for horizontally scalable read operations, MemSql single threaded multi-instances in-memory NoSql'y equivalent scaling with RDB ACID + Atomic immediate consistency constraints, Reactive eXtentions (RxJava + Flow) Event driven design, and functional programming + Java Streams with Virtual Threads to fully utilize multi-core hardware, in-memory pre/post IO-bound data encryption (Lzop) enabling large data transfer, daily summary table updates enabling fast reads of enormous data tables, materialized views, PostgreSQL data integrity constraints, Quantum computer attack resistant data pre/post network encryption, etc.

In other words, I have designed and coded/implemented core foundational systems for premiere corporate and DOD companies with example-ready code quality. I attempt to write correct and aesthetic code. Things like rx-backpressure, network bulkheads (configurable retries + circuit breakers), client-side load balancing (Ribbon from Netflix), Scala, Kotlin, Mosh (mobile shell - <https://mosh.org>), Fish Shell (mobile shell – <https://fishshell.com>), etc. excite me.

Enterprise Software Architecture

- The C4 Model – Context, Containers, Components, Code: <https://c4model.com>

Coding Examples

- Finite State Machine: <https://github.com/chadwickboggs/fsm>
- Cryptography: <https://github.com/chadwickboggs/crypto>
- Spring Boot: <https://github.com/chadwickboggs/xchange>

Professional Experience

2/2023 – 4/2024 Software Developer, Amtrak (*consulting*)

- Primary code author (30k+ lines of code) of their AWS rewrite of their entire outbound email system for customer purchases including trip information and sales receipts. Sales receipts and trip information listings for all Amtrak trips, with add-ons, and purchase types, across all Amtrak stations, passenger classes, and third-party carriers.
- Features included the handling of and processing scale for all Amtrak customer purchases, the publishing of business metric, system metric for observability, error / failure alerting, meaningful trace, debug, info, warn, and error logging with security and PII protection.
- Technologies included AWS (Cloud Formation, Lambda, Event Bridge, SQS, S3), Immutables.org Java Beans, REST, JSON + FasterXML Jackson, HttpClient, environment specific configuration, environment variables, Java 11, Maven.

6/2022 – 1/2023 Senior Software Engineer, Global Healthcare Exchange

- Lead team authoring software connecting hospital ERP and medical equipment purchasing systems to GHX.
- Lead design sessions and reviewed all code changes and new features.
- Identified and corrected design flaws.
- Identified and corrected scalability bugs: connection pools, retries, AWS AZ failovers.
- Used AWS EC2, SQS, S3, and Lambda, Java, Oracle (SQL).
- Implemented Web Services, both server-side and client-side, FTP, sFTP, HTTP(S), JSON serialization/deserialization, SQL.
- Deployed in 100's of customers' data centers, two-week production release cadence.

2/2020 – 5/2022 Software Developer, PayPal w/ TCS (*consulting*)

- Implemented direct-deposit signup services in Spring Boot.
- Implemented account bank migrations, bank change, for all PayPal accounts in Spring Batch.
- SQL, Filesystem I/O, AWS SMS, Web Services server-side and client-side.
- Maintained and implemented feature enhancements to a batch merchant report generation system.

1/2019 – 10/2019 Software Engineer, Arris / Commscope (*consulting*)

- Updated the video catalog and merchandising backend originally authored by Motorola for Bouygues Telecom, France.
- Java EE, WildFly, GlassFish, WebSphere, REST, Wiremock, Mockito, Postman, Wireshark.

1/2018 – 4/2018 Software Engineer, Comcast Corporation (*consulting*)

- Updated Java product to use Docker and Kubernetes, Java 11, Cucumber, Reactive Extensions, Git.

1/2016 – 12/2017 Software Engineer, Charter Communications (*consulting*)

- Maintained hundreds of Java microservices, added new microservices all in Amazon Web Services server-side and client-side.
- Linux, Netflix OSS, Cassandra NoSQL, Reactive Extensions, Hystrix, Java 8, SQS, SNS, S3, EC2, ActiveMQ, Mongo, Git, Spring.

9/2014 – 2/2015 Software Engineer, Comcast Corporation (*consulting*)

- Designed and built event / Reactive eXtension (RxJDBC), RabbitMQ Message Oriented Middleware (MOM) front to an Oracle database as part of the Resiliency Project, Java, Git.

2/2014 – 5/2014 Software Engineer, Tendril Inc.

- Backend / DevOps Engineer on SOA Finagle+Protobuf+Cloud Java/Scala microservices.
- Atlassian, Cucumber BDD, PostgreSQL, Hadoop, Hibernate, Scala, IntelliJ IDEA, Git.

2/2010 – 12/2013 Senior Software Engineer, JDA Software / RedPrairie / StorePerform

- Project Lead for integration of iOS/Android mobile task system with legacy web-based system.
- Extended and maintained legacy J2EE web-based task management system.
- Customers included Fortune 500 companies. Scalability and performance were paramount.
- Technologies: OSGi, Gradle, and SQL Server, Git, Mercurial, Subversion, CVS.

1/2008 – 12/2009 Independent Software Development Consultant

- Extended and maintained a JEE merchandise inventory system with MySQL DB, Java, Spring.
- Customers: AmDocs, Etilize, Bell South, eBay, Frontier Airlines, Skyway.

2/2007 – 12/2007 Chief Operation Officer, Evolution Hosting, Inc.

- ViaWest data center Linux servers for J2EE applications with Java management software, Java, Linux, VMware, Zen, Amazon Web Services.
- Large number of customers including Crocs, Wells Fargo, and Hunter Douglas.

2/2004 – 1/2007 Independent Software Development & Java Consultant

- Created NIO client with could reach 100 Mb/s scale message rates.
- Created new web sites, Java.

- Consulted at eBay, Frontier Airlines, Bell South, Skyway representing Sun Microsystems, Inc.

2/2002 – 2/2004 Senior Software Architect, Pack-expo, Inc.

- Created a reporting system for packaging advertising services.
- Maintained packaging advertising web site.
- Technologies: JBoss, Linux, MySQL, IntelliJ, BeanShell, JSP, Lzop'ed data stream for large DB backups over NFS mounts, Java, Groovy.

2/1999 - 1/2002 Java Consulting, Sun Java Center, Sun Microsystems, Inc.

- Represented Sun for RUP, UP, SunTone, OOA&D mentoring and J2EE coding, Java, SCCS, Teamware, RCS, Solaris, Java.
- Consulted at Citigroup, Vanguard Fiduciary Trust, Credit Suisse.
- Performed an Architecture Assessment recommending SOA and JEE which later was followed as advised.

4/1998 – 1/1999 Java Developer, Sun Educational Services, Sun Microsystems, Inc.

- Created web-based and Swing computer assisted training systems.
- Improved the performance of our custom pseudo-recursive-descent parser template engine by adding caching of parser results and by altering the parsing algorithm.

Education, Certifications, Patents

- AWS Certified Developer (*in progress*)
- Certified Java Developer
- Certified Java Programmer
- Patent: [#6907423](#) Search engine interface and method of controlling client searches
- B.S. Computer Science, University of Colorado at Boulder
- Attended the United States Military Academy at West Point