

Professional Summary

Platform engineer with **10+ years** building resilient document-generation pipelines, layout engines, and developer-facing template systems. Specialised in high-throughput PDF rendering, semantic authoring DSLs, and turning brittle production-ops scripts into typed, snapshot-tested libraries that scale.

Technical Skills

- **Languages:** Java 21, Kotlin, Groovy, Python, SQL
- **Document & Print:** PDFBox, Apache POI (DOCX/XLSX), iText, PostScript, ICC colour profiles, font metrics
- **Layout engines:** Custom DSL design, semantic layout trees, pagination, snapshot testing, visual regression
- **Build & infrastructure:** Maven, Gradle, GitHub Actions, JitPack, Docker, JMH benchmarking
- **Testing:** JUnit 5, AssertJ, PDFBox-based PNG diff, layout-graph snapshots, mutation testing (Pitest)
- **Distribution:** Maven Central, Sonatype OSSRH, GPG signing, JitPack, semantic versioning discipline

Education & Certifications

MSc Computer Science 2019-2021

University of Manchester

Distinction. Thesis: *Composable layout primitives for deterministic document rendering.*

BSc Software Engineering 2015-2019

Imperial College London

First-class honours. Specialisation in compilers and static analysis.

Oracle Java Certification 2023-2024

Professional track

Java 17 platform deep-dive: records, sealed types, pattern matching, virtual threads.

Projects

- **GraphCompose (Java 21, PDFBox, Maven, JMH)**
Declarative Java PDF layout engine. Semantic DSL, slot-based templates, snapshot testing. Powers production CV / invoice / proposal pipelines for hiring tools and billing systems. (*Open source*)
- **Template Studio (Kotlin, Compose Desktop, PDFBox PNG diff)**
Internal tool for evaluating CV, proposal, and invoice output across 14 design presets. PNG diffing, side-by-side layout, baseline freezing.
- **LayoutLint (Java 21, JavaParser, Spoon)**
Static analyser that flags fragile authoring patterns (deeply nested rows, untyped offsets, implicit page breaks) before they ship to production.
- **ChromeForge (Java, GraphCompose, Pandoc bridge)**
Editorial-magazine document toolkit built on GraphCompose: cinematic covers, pull quotes, multi-column flow, sidebar callouts.

Professional Experience

Senior Platform Engineer 2024-Present

Northwind Systems

Led the reusable document-generation platform serving billing, hiring, and reporting flows across **8 product teams**. Reduced template maintenance time by **70%** by retiring per-team PDF scripts in favour of one canonical engine.

Software Engineer 2021-2024

BrightLeaf Labs

Built backend services and production document rendering pipelines processing **2M+ documents per month**. Drove the migration from iText to a custom layout engine, eliminating licensing risk and cutting p99 render latency from 1.4s to 380ms.

Backend Engineer 2019-2021

Helix Print Co

Maintained a high-volume invoice-printing service (15M PDFs/year) and authored the compliance test harness that gated every template change.

Additional Information

Languages: English (Fluent), German (Intermediate), Spanish (Basic)

Work Eligibility: Eligible to work in the UK and the EU

Open Source: Maintainer of GraphCompose. Regular contributor to PDFBox issue triage.

Speaking: JVM Summit 2024, Devoxx UK 2025 — both on declarative document layout.