Billy Linn

Senior Software Engineer · Backend & API Architecture · Applied AI / LLMs

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> Senior engineer, 15+ years, mostly on the parts of a product nobody sees — backend systems, cloud architecture, and the AI layer teams are now putting on top of them.
>
> At Alchemer I build Python microservices on AWS and Kubernetes, own the API behind the AI Survey Builder, and work across Chatmeter's Scala/Play backend on cross-product permissions and platform architecture.
>
> I own complex work end-to-end, navigate legacy systems with authority, make the architectural calls, and mentor the engineers around me.

Technical Skills

AI / LLMs	AWS Bedrock, Langfuse, Ollama, CrewAI, ChatGPT API, Claude Code, GitHub Copilot
Languages	Python, PHP, Scala, C/C++, JavaScript
Backend	Microservices, event-driven architecture, legacy modernization, Laravel, Play Framework, Nginx
APIs / Architecture	REST API design, OpenAPI contracts, Orval codegen, Module Federation micro-frontends
Cloud / Infra	AWS (Lambda, SQS, S3, RDS, EC2, SES, IoT Core), Kubernetes, Docker, Redis
Data	PostgreSQL, MySQL, MongoDB, DynamoDB, Elasticsearch, Firestore
Integrations	Auth0, Zuora, Stripe, Twilio, Salesforce, HubSpot, Slack, Google APIs
Embedded / IoT	ESP32, Raspberry Pi, MQTT, microcontrollers, custom PCB design

Experience

Alchemer — Senior Software Engineer

Mar 2024 – Present

Boulder, CO (Remote)

- **Own the backend and API contract for the AI Survey Builder** — a React/PHP builder with autosave and 17 question types, on an OpenAPI spec drift-tested in CI and consumed through Orval-generated clients.
- **Closed the authentication and CSRF gaps on that API** — restored CSRF enforcement across 22 endpoints and replaced silent redirects on an expired session with proper JSON 401 responses.
- **Fixed AI-generation correctness bugs** — question placement, pages missing from generated surveys — by tracing root causes through the model-facing serialization layer rather than tuning prompts.
- **Built a Langfuse LLM-as-judge evaluation system** that scores the quality of the survey blueprints the Bedrock-backed generator produces.
- **Designed a cross-product ACL and global navigation platform** — MongoDB-backed permissions evaluated as a pure union of four sources, unifying Module Federation micro-frontends.
- **Led a structured Gen AI product ideation effort** — synthesized internal notes into a ~35-item, NPS-validated prioritized roadmap, published to Confluence.

Alchemer (prev. SurveyGizmo) — Senior → Lead Developer

Oct 2016 – Oct 2021

Boulder, CO (Remote)

- **Lead architect on the Workflows engine** — an event-driven API backend in PHP, DynamoDB, Elasticsearch and SQS, behind a Vue SPA for survey workflow automation.
- **Lead architect on a company-wide Zuora billing overhaul**, replacing a custom in-house system for subscriptions, payments, and usage-based quota enforcement.

- **Promoted to Lead Developer after 13 months**, then back to Senior after relocating to Wyoming.
- **Mentored junior and mid-level engineers** through code reviews, pair programming, and architecture sessions.
- **Drove incident response** — log analysis, root cause investigation, data recovery scripting, and post-mortems.

City of Fort Collins — Full Stack Developer

Jun 2010 – Oct 2016

Fort Collins, CO

Full stack development, server administration, database design, CMS work, and third-party integration for city departments and public-facing applications.

Colorado vNet — QA → Software Engineer / Project Lead

Apr 2008 – Jun 2010

Loveland, CO

Web-based control system for whole-house audio and HVAC. Tested in-wall control panels and led development of a new audio/video server product.

Personal Projects

DoorWiki — since 2016

Multi-tenant SaaS PWA for property management, running real operations on Laravel, Nginx, and a full AWS stack.

Laravel · AWS · Postgres · Stripe · Multi-tenant SaaS

Laundry Lockers

IoT lockers for 24/7 laundry drop-off, from a Raspberry Pi prototype to C/C++ on an ESP32 and a circuit board I drew myself.

C/C++ · ESP32 · AWS IoT Core · MQTT · Lambda

Remote Temp / Humidity Sensors

ESP32 sensors watching rental units for frozen pipes, pushing readings to Firestore every 20 minutes behind a live dashboard.

ESP32 · Firestore · Python

Bingo TV

Raspberry Pi bingo caller used at local fundraisers — board display, audible calls, multiple game modes.

Python · PyQt5 · Raspberry Pi

Education

DeVry University — B.S. Computer Engineering

2005 – 2008

Westminster, CO

Computer science and hardware: Assembly, C, C++, Java, microcontrollers.