

# RAY CRUTCHFIELD

**Solutions Architect (Hands-on) | AWS Serverless | Data Platforms | LLM Automation**

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## SUMMARY

Software developer and solutions architect specializing in AWS serverless/microservices, data platforms, and ML/LLM-enabled automation. Led end-to-end delivery of scalable systems, cost-optimized architectures, and data products that drove multi-million-dollar client impact.

## SKILLS

Cloud: AWS (Lambda, API Gateway, Step Functions, ECS, S3, RDS/Aurora, DynamoDB, CloudWatch, CloudFormation)

Backend: Node.js/TypeScript, Python (FastAPI), REST/GraphQL, Event-driven, Microservices

Data/ML: ETL/ELT, Postgres, DynamoDB, PyTorch, scikit-learn, Feature pipelines, BI (QuickSight)

DevOps: Docker, CI/CD (GitHub Actions), IaC, Observability (Sentry, CloudWatch), Security (IAM, VPC)

AI/LLM: OpenAI/ChatGPT integration, prompt/guardrails, text-to-JSON extraction, data validation

## EXPERIENCE

IterLoop - Principal Solutions Architect (Owner) | Nov 2018-Present

- Built a scalable outreach platform and automation layer expanding from ~100k → 2M prospects/month; increased sales appointments by 112%.
- Integrated LLM services (OpenAI/ChatGPT) to personalize outreach, validate/cleanse data, and convert unstructured text to structured records, reducing manual QA and accelerating lead flow.
- Reduced cloud spend by 40% through architectural redesign and right-sizing across AWS services.
- Developed ML models (PyTorch, scikit-learn) to identify decision-makers to support marketing efforts; implemented nightly retraining and feedback loop for continuous lift.
- Designed database and ETL to support large-scale operations and real-time BI with AWS QuickSight.
- Redesigned and automated a data collection process, increasing data volume by 18x by scaling from 3 manual workers to the equivalent of 54 through cloud-based automation.
- Designed and managed end-to-end cloud infrastructure on AWS and Azure, including infrastructure as code, cost optimization, and system monitoring; defined service-level indicators (SLIs) and operational objectives (SLO-type thresholds) for volume and error-rate monitoring.

Tennessee Comptroller of the Treasury - Audit Lead (Legislative Auditor 4) | Jan 2011-Nov 2018

- Led audit teams across financial/compliance audits; built Python/SQL/VB/ACL automations to streamline procedures and reporting.

- Developed KPIs and automated tooling to monitor auditor productivity and efficiency.
- Chaired the data analysis committee; documented best practices and led training; contributed to detection of adverse opinions and material noncompliance.

**EDUCATION**

Middle Tennessee State University - B.B.A., Accounting | Dec 2010