Roy Hill-Percival

Technology and Engineering Executive, Founding Architect, 2x Acquisitions

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SUMMARY

Two acquisitions, including a startup exit as govWorks' founding architect; a distributed-systems patent now owned by AWS; and 15+ years building and leading teams and platforms from New York, Miami, and now Atlanta. Product experience spans speech and natural-language AI, end-to-end encrypted messaging, contact-center platforms, and AI-driven government-document automation, on secure multi-region infrastructure: millions of encrypted-messaging users at Wickr, and SOC 2 Type II and ISO 27001 operations at Expedited Travel handling thousands of requests per second. Fully remote since 2020, scaling distributed engineering teams across the US and Latin America. Currently VP of Technology and AI at Expedited Travel, leading an AI-first organization where AI agents execute the majority of development with an 80% smaller engineering team at roughly twice the throughput.

HIGHLIGHTS

- **Founding Architect** of govWorks: exited via the acquisition by Expedited Travel, holding a stake through the deal.
- **Patent awarded** in distributed-systems architecture (US 10,291,607).
- **First dedicated backend/platform hire** at Wickr, reporting directly to the CTO.
- **15+ years** of engineering with progressively greater responsibility.
- Built & led an engineering org from 4 to **30 engineers** across govWorks and its acquisition by Expedited Travel, spanning six remote teams.
- **AI/ML architect**: speech & NLP since 2012, Watson-era live-call intelligence to production LLM voice agents in 2026.
- End-to-end **encryption** & cryptographic messaging systems.
- Big-data analytics and stream processing.
- Large-scale **AWS** environment architect.
- **M&A**: sell-side technical due diligence at govWorks; delivered the milestones that closed Stericycle's acquisition of LiveAnswer.

EXPERIENCE

VP of Technology and AI | Expedited Travel

Jan 2026 - Present
Atlanta, GA

Promoted from Senior Director of Engineering to lead the company's AI-first transformation across engineering, operations, customer support, and fulfillment.

- Lead the engineering organization as the company's senior-most technology executive, reporting directly to the COO.
- Present technology and AI-transformation progress weekly to company leadership, from VPs and the C-suite to the CEO/founder.

- Established company-wide AI usage and governance policies while maintaining SOC 2 Type II and ISO 27001 compliance.
- Transitioned engineering to an AI-first organization: the majority of development is executed by AI agents under the direction of 6 engineers, down from 30 (an 80% reduction), shipping roughly twice the merged-PR and feature throughput of the larger team; moving the work directly under the people with the product vision eliminates layers of handoff and delivers faster iteration with fewer escaped defects.
- Scaled the AI support platform to real-time voice: agents resolve inquiries and automate call handling end to end, reducing headcount needs across operations and customer support.
- Gate agent quality with LLM-as-judge evaluation suites and a supervisor agent for continuous AI observability; A/B test agent and model changes across hosted and quantized local models with staged rollouts and live traffic splits.
- Built an AIOps harness for agentic incident response: agents monitor Datadog for production issues, diagnose root causes, propose fixes as pull requests, and report each investigation into Discord.
- Cut projected annual infrastructure spend 50%, with AI agents driving resource consolidation and ECS container-placement optimization.
- Stack: TypeScript, Node.js, Python, AWS, GCP, Azure, Kubernetes, Terraform, GitHub Actions, LangChain/MCP.

Senior Director of Engineering | Expedited Travel

Mar 2019 - Jan 2026

Miami, FL

Joined through Expedited Travel's acquisition of govWorks; continued to lead the govWorks platform within Expedited Travel.

- Led up to 30 engineers across six fully remote teams spanning the US and Latin America (one hands-on, the others through principal and lead engineers), reporting directly to the COO.
- Integrated govWorks technology into Expedited Travel's platform and expanded automated visa support across many new countries.
- Built the first version of the in-house AI customer-support platform in 2025: chat agents grounded in company knowledge with RAG (embeddings + vector search), gated by an automated LLM-as-judge evaluation suite comparing responses against expected outputs.
- Deployed the company's first back-office AI agents assisting order fulfillment, built on MCP tool/function calling with schema-validated structured outputs.
- A/B tested model and feature changes with offline eval suites, staged rollouts, and live traffic splits, balancing quality against latency, throughput, and cost.
- Led an ML/AI system that captures passport-style photos with automatic framing and cropping, validating them against each country's compliance requirements in real time with a LoRA fine-tuned vision model.
- Delivered AI-driven review analysis, automated customer outreach, and continuous reputation monitoring.
- Built AI/ML document-scanning that extracts data from identity documents (e.g., driver's licenses), detecting, cropping, and parsing key fields to streamline application processing.
- Ran 24x7 operations of large, fault-tolerant, multi-region AWS environments handling thousands of requests per second.
- Owned SRE practices for the platform: defined SLIs/SLOs, ran on-call incident management with postmortems, and used reliability data to pace releases.
- Stack: Angular, React, TypeScript, Node.js, AWS, GCP, Azure, Docker, Kubernetes, Terraform, GitHub Actions, LangChain/MCP.

Founding Architect | govWorks

Jan 2018 - Mar 2019

Miami, FL

Founding architect: designed govWorks with its founder through 2017, ahead of its January 2018 launch; then built and led the engineering team and held a stake through the acquisition. govWorks let users apply for vital documents such as passports and visas with the tap of a button, as a registered courier with the U.S. Department of State and through direct integrations with municipal governments and foreign consulates. Acquired by Expedited Travel.

- Led the engineering vision, system architecture, scalability, and security through to acquisition.
- Represented engineering in technical due diligence for the acquisition by Expedited Travel.
- Architected a standardized **Data Vault** enabling any form to be filled from a single source of information via a mapping structure.
- Designed an **Automation Engine** that automates any website, fills any PDF/document, and streams real-time feedback over WebSocket, submitting applications with no user intervention.
- Built automated CI/CD powering a distributed Docker-based (AWS ECS) infrastructure across staging and production.
- Shipped iOS & Android apps for couriers and document-resolution teams.
- Developed unified checkout funnels and a CRM/order-management platform.
- Grew the team from 4 to 10 by the acquisition, then to 30 at Expedited Travel, alongside product designers and QA (led through lead and principal engineers across backend, frontend, iOS, Android, DevOps, and infrastructure).
- Stack: Angular, TypeScript, Node.js, AWS (ECS), Docker, WebSockets.

Principal Software Engineer, then Director of R&D | Stericycle Communications

Oct 2016 - Jan 2018

New York, NY

Joined when Stericycle (Fortune 1000) acquired LiveAnswer, a unifying operating system for contact centers, to lead the New York team delivering the integration milestones the deal was tied to; promoted to Director of R&D after it fully closed in 2017.

- Led the New York engineering team that built the majority of the feature set required under the acquisition agreement, and supported technical due diligence through its close.
- Built call-flow services and an IVR on Twilio, with pager-notification support.
- Built real-time agent-assist and conversational analytics for contact-center agents: AI sentiment analysis and bi-directional machine translation (IBM Watson) for multi-language voice support, later expanded into live-call intelligence (intent detection, sentiment, and speech translation) across Stericycle's contact-center platforms.
- Integrated and consolidated Stericycle's disparate legacy contact-center systems, some running on mainframes and DOS.
- As Director of R&D, prototyped advanced tech (machine learning, WebRTC, PNaCl, WebAssembly) and transitioned validated proofs of concept to core engineering.
- Met strict security and regulatory needs (SOC 2 Type II, ISO 27001) with product, compliance, and stakeholders.
- Mentored engineers and attracted/retained top software-engineering and R&D talent.
- Stack: Laravel (PHP), Angular, Node.js (TypeScript), Twilio, IBM Watson, WebRTC, PNaCl/WebAssembly, GCP, Azure.

Lead Software Engineer, Platform | Wickr

Nov 2014 - Oct 2016

New York, NY

Wickr (acquired by AWS) pioneered ephemeral, end-to-end encrypted messaging and real-time encrypted video, audio, and text collaboration. Joined as the first dedicated backend/platform hire, taking over the backend built by the CTO and reporting directly to the CTO.

- **Patented** a means of delivering cryptographically secure real-time events to applications: Switchboard, prototyped in Node.js, rebuilt in Erlang/OTP for its concurrency model, and ported to Rust for production.
- Migrated a legacy RESTful LAMP messaging system on dedicated hardware to an event-driven, low-latency microservices platform on AWS serving millions of users in real time (Node.js WebSockets/Express, Redis, Cassandra, RabbitMQ).
- Designed a real-time API driving multiple client platforms atop the cryptographic communication protocol.
- Proposed and demonstrated crypto-protocol improvements supporting consensus features.
- Built a secure REST API powering the enterprise product's admin portal (Node.js).
- Implemented a distributed real-time analytics system (RabbitMQ, Node, MySQL stat-binning).
- Wrote core hashing in C as a PHP extension to speed proprietary hashing in the legacy system.
- Designed and ran 4 AWS environments, 2 at production scale.
- Stack: Node.js, Rust, C, PHP, Redis, Cassandra, RabbitMQ, MySQL, AWS.

Software Engineer, Distributed Systems | iSpeech Inc.

Jun 2012 - Nov 2014

Newark, NJ

iSpeech built speech-recognition (ASR), text-to-speech (TTS), and natural-language understanding (NLU) products powering consumer apps and third-party developers. Joined full-time while completing my B.S., scheduling classes around work hours.

- Built speech-side systems: a viseme generator for lip-sync, audio-labeling tools for training data, and core voice-cloning technology.
- Designed, built, and secured infrastructure analyzing statistics for a new social platform.
- Designed and deployed a distributed video-encoding system.
- Maintained and expanded a 23+ node Cassandra cluster and ensured proper operation of its Solr indexer.
- Designed APIs, plus their server cluster and networking environment, for third-party developers.
- Built full-stack Symfony apps and APIs in PHP and Hack on HHVM, distributed across many servers.
- Designed a distributed load-balancer (HAProxy + Stunnel) for an nginx-based cluster.
- Stack: ZeroMQ, RabbitMQ, Redis, Cassandra, Solr, HAProxy, Jenkins, NDBCluster.

Software Developer & Technology Mentor, STARS Program | NJIT

Oct 2010 - Jun 2012

Newark, NJ

University work experience held alongside my B.S. in Computer Science.

- Selected for NJIT's STARS reverse-mentoring program, pairing skilled student developers with faculty.
- Built working technology projects and taught them hands-on to Computer Science faculty, across a rotating set of technologies chosen each cycle.

ADVISORY

Founder & Advisory Board Member | HexTech Consulting

Jul 2019 - Aug 2024

Miami, FL

Founded a collective of senior engineers serving companies from startups to Fortune 500 and led its early growth through hands-on consulting. The advisory board seat required a few hours per quarter with no operational involvement.

- VPN app and platform in Tauri (Rust): one core shipping native apps across Windows, macOS, Linux, iOS, and Android with native OS networking modules, backed by a globally distributed, WireGuard-based node network with XTLS Reality/Vision support, plus a Stripe-integrated customer website and portal.
- Live remote-training video platform: on-demand transcoding, iOS/Android apps, and Chromecast casting.
- Unified dental-practice API with bidirectional practice-management integrations and an embedded Raspberry Pi CM sync gateway reverse-tunneling on-prem systems to the cloud.
- Direct-mail marketing SaaS platform with a Docker-on-Lambda print-rendering pipeline serving thousands of TLS-secured customer landing pages.
- Product-analytics platform on a Neo4j graph model: data pipelines feeding interactive dashboards that surface product usage and business metrics.
- Stack (across these and other engagements): Rust, Tauri, TypeScript/Node.js, GraphQL, Neo4j, React, AWS.

EDUCATION

New Jersey Institute of Technology - B.S., Computer Science, GPA 3.7, Dean's List, ACM, Senior project: distributed GPU cracking of WPA Wi-Fi handshakes

2010 - 2014

Newark, NJ

AWARDS & PATENTS

Providing Real-Time Events to Applications - US 10,291,607, issued May 14, 2019

Patent

SendGrid Prize - HackRU 2014

Oct 2014

SKILLS & TECHNOLOGIES

LANGUAGES: Rust, TypeScript (Node.js / Deno), JavaScript, PHP, Python, Hack, C, C++, Go, Swift, Java, Erlang, Elixir

FRAMEWORKS: Angular, React, Redux, shadcn/ui, Next.js, NestJS, Fastify, Express, GraphQL, WebRTC, WebSockets, WebAssembly, Playwright, Puppeteer, Laravel, Electron, Tauri, Actix, Rocket, Tokio, Flask, Django, OTP

AI / ML: RNNs/CNNs (TensorFlow, PyTorch), Transformers, GANs, Computer Vision (OpenCV, dlib), multimodal models (vision, speech), LoRA fine-tuning, model serving optimization (quantization; distillation/pruning/MoE trade-offs), LLMs (Mistral, DeepSeek-R1, Claude, GPT), RAG, embeddings & vector databases, AI agents, agentic workflows, multi-agent orchestration, function calling & structured outputs, LLM evals & A/B testing, AI observability, LangChain, MCP, Claude Code, crewAI, prompt engineering

DATA / INFRA: Kafka, RabbitMQ, ActiveMQ, Flink, Kubernetes, Docker, Helm, Rancher, CI/CD (GitHub Actions, Jenkins), Cassandra, ScyllaDB, Redis, Valkey, MySQL, PostgreSQL, Couchbase, DynamoDB, MongoDB, Neo4j, OpenSearch/Elasticsearch, Solr, Grafana, Datadog, Infrastructure as Code (Terraform, Ansible), SRE (SLIs/SLOs, incident management, error budgets), TCP/IP, HTTP/2/3, WireGuard, load balancing (Nginx, HAProxy)

CLOUD: AWS (EC2, ECS/EKS, Lambda, S3, CloudFront, RDS, KMS, Bedrock, SageMaker, MSK, Step Functions), GCP (GKE, Cloud Run, BigQuery, Vertex AI), Azure (AKS, Functions, Cosmos DB, OpenAI), Cloudflare, Fastly

SECURITY: End-to-end encryption, applied cryptography, SOC 2 Type II, ISO 27001, AI safety & usage governance

LEADERSHIP: Org design, AI-first & digital transformation, M&A technical due diligence, remote/distributed teams (US & LatAm), engineering hiring & mentorship, executive communication

Systems I've built & scaled

AI/ML automation platforms, AI computer-vision / image-analysis platforms, AI-powered customer-service ticket resolution, CRMs and order-management / fulfillment, Logistics & inventory management, Video-streaming platforms, Distributed job-execution pipelines, Checkout funnels & payment processing, Embedded-device & reverse-tunneling systems, Contact-center agent-assist & conversational analytics (live intent/sentiment), End-to-end encrypted ephemeral messaging, ASR, TTS, and NLP systems, Real-time speech translation, iOS & Android apps across all of the above, Streaming analytics / "big data"