

INTELLECTUAL PROPERTY PORTFOLIO

ByRyde

Patent Application Summary

8 Patentable Innovations | 20 Claims | 12 Technical Figures

ATTORNEY-CLIENT PRIVILEGED | February 2026
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INVENTION OVERVIEW

ByRyde has developed a comprehensive AI-driven rideshare driver optimization platform that represents a significant advance over the current state of the art. This nonprovisional utility patent application covers the core innovations across artificial intelligence, dynamic pricing, vehicle integration, safety systems, and driver engagement.

Full Title

System and Method for AI-Driven Rideshare Driver Optimization with Integrated Real-Time Decision Intelligence, Predictive Demand Analytics, Dynamic Fare Computation, Autonomous Vehicle Fleet Management, and Multi-Modal Safety Monitoring

International Patent Classification

IPC Code	Classification
G06Q 10/04	Forecasting or Optimization
G06Q 50/30	Transportation / Logistics
G06N 20/00	Machine Learning
G08G 1/123	Traffic Control Systems

EIGHT PATENTABLE INNOVATIONS

#	Innovation	Claims	Technical Advance	Risk
1	AI Copilot Suite	1-5	15 concurrent GPT-powered inference endpoints	Low
2	Smart Ride Filtering	6-8	7-parameter server-side cascading filter	Med
3	Cryptographic Fares	9-12	HMAC-SHA256 signed quotes, timing-safe	Low
4	Tesla Fleet API	12-14	OAuth2 PKCE vehicle telemetry & commands	Low
5	Crash Detection	15-16	Accelerometer-based with emergency response	Med
6	Fatigue Monitoring	15,17	AI wellness + mandatory break enforcement	Low
7	IRS Mileage Track	15	Background GPS, Haversine, IRS-compliant	Med
8	Gamification Engine	18	4 streaks, 4 tiers, stackable bonuses	Med

THREE INDEPENDENT CLAIMS

Claim 1 — AI-Driven Driver Optimization System

A computer-implemented system comprising a server that executes an AI copilot suite with fifteen distinct inference endpoints, each generating structured recommendation outputs by submitting engineered prompt templates to a large language model. Covers earnings optimization, surge prediction, wellness assessment, ride decisions, and conversational coaching.

Claim 9 — Cryptographic Fare Quote Method

A method for generating cryptographically signed fare quotes using HMAC-SHA256 over fare amount, user ID, and timestamp. Computes multi-variate fares, signs with server-side key, validates upon ride completion using timing-safe comparison to prevent tampering and side-channel attacks.

Claim 15 — Multi-Modal Safety Monitoring System

A non-transitory storage medium implementing: (1) crash detection via accelerometer/gyroscope with G-force threshold and emergency response protocol; (2) fatigue monitoring with AI wellness assessment and mandatory breaks; (3) IRS-compliant mileage tracking with background GPS and Haversine computation.

FILING STRATEGY AND COSTS

Recommended Filing Timeline

#	Action	Timeline	Est. Cost
1	File Provisional Application	Immediate	\$1,500-\$3,000
2	Nonprovisional Filing	Within 12 months	\$8,000-\$15,000
3	PCT International Filing	Within 12 months	\$4,000-\$8,000
4	National Phase Entries	30 months from priority	\$10,000-\$25,000/country
5	Prosecution / Office Actions	12-36 months	\$3,000-\$8,000/action
6	Continuation-in-Part	Ongoing	\$5,000-\$12,000 each

USPTO Fee Estimates

Entity Type	Filing Fee	Notes
Micro Entity	\$400	37 C.F.R. §1.29
Small Entity	\$800	Standard small business
Large Entity	\$1,600	Full fee schedule
Excess Claims	\$0	"d3 independent, "d20 total

IP Portfolio Value

Estimated IP portfolio value based on comparable transportation technology patents: \$5M - \$15M. Value drivers include:

- **Defensive value:** Prevents competitors from implementing similar AI-driven driver optimization systems
- **Licensing potential:** Individual claim groups licensable to non-competing platforms (delivery, logistics, fleet management)
- **M&A value:** Patent portfolio significantly increases acquisition value for strategic acquirers
- **Investor confidence:** Demonstrates protectable technological moat and competitive advantages

Contact Information

Field	Value
Entity	ByRyde LLC
Type	Delaware C-Corporation (Small Entity)
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Website	byryde.com
Attorney Docket	BYRYDE-2026-001

