Potential Infringement Analysis: AI Vision Patent Portfolio

Prepared for Internal Discussion

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CONFIDENTIAL - ATTORNEY WORK PRODUCT

Executive Summary

This document identifies companies likely infringing on the Carnegie Mellon AI Vision patent portfolio based on publicly available product information, technical documentation, and market positioning. These targets represent both **licensing revenue opportunities** and **leverage for defensive acquisition discussions**.

Note: Formal claim chart analysis required before any enforcement action. This is a preliminary identification based on product-market overlap.

Confirmed Target: Experian

Status: Evidence of Use Already Developed

Per the EoU documentation (USP 7,062,510), Experian's **Purchase-Based Data Solutions** have been mapped against patent claims.

Patent	Claim Elements Mapped	Evidence Source
US 7,062,510	Consumer profiling from purchase data, consumer characterization vectors	experian.com/marketing/consumer-view/transactional-data

Products Implicated:

- ConsumerView Transactional Data
- Identity Resolution Services
- Marketing Attributes

Estimated Licensing Value: $5M - $15M annually (based on product revenue)

Recommendation: Use as template for additional EoU development; leverage in defensive acquisition discussions.

Category 1: Retail Automation Infringers

Amazon (Amazon Go / Just Walk Out)

Technology	Likely Infringing Patents	Evidence
Grab-and-go checkout	Shrinkage detection, multi-view product detection	amazon.com/b?ie=UTF8&node;=16008589011
Product recognition	Smart bounding boxes, multi-scale detection	AWS "Just Walk Out" technology documentation
Shelf monitoring	Planogram compliance, false positive reduction	Amazon Fresh store deployments

Public Evidence:

- "Just Walk Out" uses computer vision to track products
- Multi-camera fusion for product identification
- Real-time inventory tracking

Estimated Licensing Value: $50M - $200M (based on deployment scale)

Walmart (Sam's Club Scan & Go, Store Automation)

Technology	Likely Infringing Patents	Evidence
Scan & Go mobile checkout	Product recognition, feature extraction	corporate.walmart.com/tech
Inventory robots	Multi-view detection, shelf scanning	Bossa Nova partnership, Symbotic deployment
Self-checkout	Shrinkage detection, object recognition	In-store self-checkout systems

Public Evidence:

- Inventory scanning robots deployed in stores
- Computer vision for checkout verification
- Partnership with Symbotic for warehouse automation

Estimated Licensing Value: $30M - $100M

NCR Voyix

Technology	Likely Infringing Patents	Evidence
Self-checkout systems	Shrinkage detection, product recognition	ncr.com/retail/self-checkout
Loss prevention	False positive reduction, object detection	NCR Vision portfolio
Product identification	Multi-scale detection, bounding boxes	POS/checkout documentation

Public Evidence:

- Market leader in self-checkout hardware/software
- "NCR Vision" explicitly references AI-powered detection
- Loss prevention features in checkout systems

Estimated Licensing Value: $10M - $30M

Zebra Technologies

Technology	Likely Infringing Patents	Evidence
Inventory management	Shelf scanning, planogram compliance	zebra.com/retail
SmartSight	Product detection, multi-view recognition	SmartSight platform documentation
Workforce solutions	Action recognition, pose estimation	Task management systems

Estimated Licensing Value: $8M - $20M

Category 2: Security & Surveillance Infringers

Verkada

Technology	Likely Infringing Patents	Evidence
AI-powered cameras	Face recognition, pose-invariant detection	verkada.com/products
Person/vehicle detection	Efficient architectures, edge processing	On-camera AI documentation
Entrance security	Continuous authentication, biometrics	Access control products

Public Evidence:

- Cloud-managed cameras with on-device AI
- Facial recognition and person detection features
- Edge processing for real-time alerts

Estimated Licensing Value: $5M - $15M

Axon (Taser)

Technology	Likely Infringing Patents	Evidence
Body camera AI	Action recognition, efficient architectures	axon.com/products/axon-body
Evidence.com analytics	Face recognition, pose estimation	Cloud evidence platform
Real-time crime centers	Weapon detection, scene analysis	Axon Fusus acquisition

Public Evidence:

- AI-powered evidence analysis
- Body camera footage processing
- Real-time alerting systems

Estimated Licensing Value: $10M - $25M

Motorola Solutions

Technology	Likely Infringing Patents	Evidence
Video security	Face recognition, continuous authentication	motorolasolutions.com/video-security

Technology	Likely Infringing Patents	Evidence
Avigilon (acquisition)	Pose-invariant recognition, action detection	Avigilon AI capabilities
Command centers	Multi-camera analysis, scene rectification	Public safety solutions

Public Evidence:

- Avigilon acquisition brought extensive AI video analytics
- Appearance search and unusual motion detection
- Self-learning video analytics

Estimated Licensing Value: $15M - $40M

Category 3: Consumer Electronics / AR/VR Infringers

Apple

Technology	Likely Infringing Patents	Evidence
Face ID	3D face reconstruction, pose-invariant recognition	Apple Face ID documentation
Vision Pro	Efficient architectures, on-device processing	visionOS developer documentation
Photos app	Face recognition, feature extraction	On-device ML features

Public Evidence:

- Face ID uses 3D facial mapping for authentication
- Vision Pro runs spatial computing on-device
- Neural Engine optimizations for vision AI

Note: Apple has strong patent portfolio for cross-licensing; may be better as buyer than litigation target.

Estimated Licensing Value: $25M - $75M (if enforceable)

Meta

Technology	Likely Infringing Patents	Evidence
Quest hand/face tracking	3D reconstruction, pose estimation	Meta Quest documentation
Avatars	Face synthesis, generative vision	Horizon Worlds, Codec Avatars
Ray-Ban smart glasses	Efficient architectures, edge AI	Meta AI glasses features

Public Evidence:

- Quest headsets use facial expression tracking
- Codec Avatars research uses single-image 3D reconstruction
- Smart glasses run AI models on-device

Estimated Licensing Value: $30M - $100M

Snap

Technology	Likely Infringing Patents	Evidence
AR Lenses	3D face reconstruction, pose estimation	Snap AR documentation
Spectacles	Efficient architectures, on-device AI	Spectacles 4 features
ML Kit	Lightweight models, feature extraction	Snap developer tools

Estimated Licensing Value: $10M - $25M

Category 4: Identity & Biometrics Infringers

Clear Secure

Technology	Likely Infringing Patents	Evidence
Biometric identity	Iris recognition at distance, face recognition	clearme.com
Airport/venue entry	Continuous authentication, pose-invariant	Clear lane deployments

Technology	Likely Infringing Patents	Evidence
Health Pass	Compact enrollment, feature extraction	Clear Health Pass product

Public Evidence:

- Uses iris and facial recognition for identity verification
- Claims fast enrollment with minimal images
- Real-time matching at entry points

Estimated Licensing Value: $8M - $20M

Jumio

Technology	Likely Infringing Patents	Evidence
Identity verification	Face recognition, age estimation	jumio.com/products
Document + selfie match	Pose-invariant recognition, partial face	KYX Platform documentation
Liveness detection	3D face analysis, scene rectification	Anti-spoofing features

Estimated Licensing Value: $5M - $12M

Onfido

Technology	Likely Infringing Patents	Evidence
Identity verification	Face matching, feature extraction	onfido.com
Biometric verification	Pose handling, age estimation	Real Identity Platform

Estimated Licensing Value: $4M - $10M

Category 5: Chip/Edge AI Infringers

Qualcomm

Technology	Likely Infringing Patents	Evidence
Snapdragon AI Engine	Efficient architectures, binary networks	qualcomm.com/snapdragon
AI Model Efficiency Toolkit	Pruning, compression frameworks	Developer documentation
Hexagon DSP	Lightweight model optimization	Hexagon SDK

Public Evidence:

- AI Engine includes neural network optimization
- Quantization and pruning tools in SDK
- On-device inference optimization

Note: Strong cross-licensing candidate; may prefer partnership.

Estimated Licensing Value: $20M - $50M

NVIDIA

Technology	Likely Infringing Patents	Evidence
Jetson	Edge AI deployment, efficient inference	nvidia.com/jetson
TensorRT	Network optimization, pruning	TensorRT documentation
DeepStream	Multi-camera vision, action recognition	DeepStream SDK

Note: NVIDIA has extensive AI patent portfolio; cross-licensing likely.

Estimated Licensing Value: $15M - $40M

Prioritized Target List

Tier 1: High Value, Clear Infringement

Company	Est. Annual Licensing	Enforcement Complexity
Amazon	$50M - $200M	High (resources to fight)
Meta	$30M - $100M	Medium

Company	Est. Annual Licensing	Enforcement Complexity
Apple	$25M - $75M	High (cross-license likely)
Walmart	$30M - $100M	Medium

Tier 2: Medium Value, Strong Evidence

Company	Est. Annual Licensing	Enforcement Complexity
Motorola Solutions	$15M - $40M	Medium
NCR Voyix	$10M - $30M	Low (smaller resources)
Qualcomm	$20M - $50M	Medium (cross-license)
Axon	$10M - $25M	Medium

Tier 3: Accessible Targets, Faster Resolution

Company	Est. Annual Licensing	Enforcement Complexity
Experian	$5M - $15M	Low (EoU exists)
Verkada	$5M - $15M	Low
Clear	$8M - $20M	Low
Zebra	$8M - $20M	Low
Snap	$10M - $25M	Medium

Recommended Enforcement Strategy

Phase 1: Build Evidence (Current)

- Complete Experian claim charts (already started)
- Develop 2-3 additional EoUs from Tier 3 targets (Verkada, Clear, NCR)
- Document public evidence from company websites, developer docs, marketing materials

Phase 2: Initial Outreach

- Send licensing inquiry letters to Tier 3 targets
- Use early licenses to establish royalty benchmarks
- Build war chest for larger enforcement

Phase 3: Major Target Engagement

Approach Tier 1/2 with established licensing rate
Offer portfolio acquisition as alternative to licensing
Use litigation threat only after negotiation fails

Alternative: Defensive Sale

- Present infringement analysis to potential acquirers
- Companies on this list may prefer to **buy the portfolio** rather than face enforcement
- Experian, Amazon, Meta most likely defensive buyers

Evidence Collection Checklist

For each target, collect:

- [ ] Product marketing pages (screenshots with dates)
- [ ] Technical documentation / white papers
- [ ] Developer SDK documentation
- [ ] Patent filings by target (shows awareness of field)
- [ ] Press releases about AI/vision capabilities
- [ ] YouTube product demos
- [ ] Job postings mentioning relevant technologies
- [ ] Academic papers by company researchers

Document prepared for internal strategy discussion. Formal infringement opinions require detailed claim chart analysis by patent counsel.