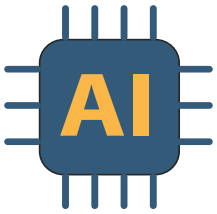
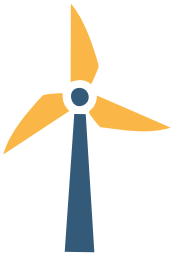
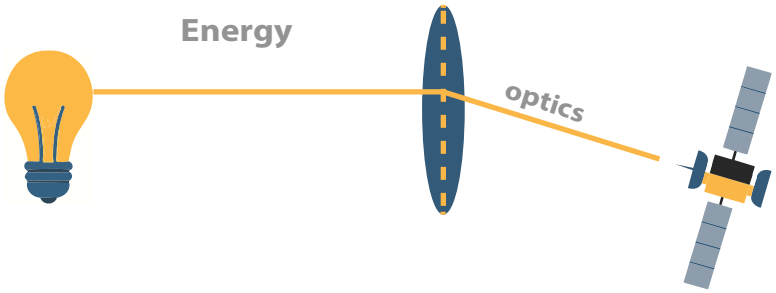




Energy

Medical Devices

AgriTech



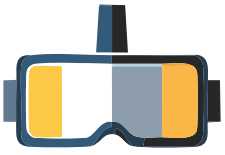
HOLDER | IP

Areas of Technical Experience

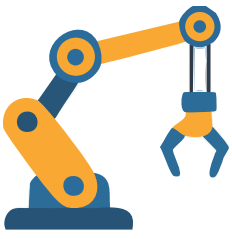
Cloud

Universities

Quantum



VR / AR



Mechanical

Wearables

Software

FinTech

HOLDER | IP

Phone: +1 (404) 248 7740
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Website: www.holderip.com

Protecting a broad spectrum of technologies across the globe

Areas of Experience

Software & Data Technologies

Artificial Intelligence

Quantum Computing & Optics

Medical & Health Technologies

Electrical Engineering

Networking & Communications

Device Fabrication & Materials

AgriTech, FinTech, and Smart Home

Mechanical Products

Sean J. Holder

- Former Am Law 60 partner
- J.D. Emory Law
- B.S. Physics, Georgia Tech
- B.A. Philosophy, BYU
- 15 years in patent law

Background

Prior to starting Holder IP, Sean was a partner at a large Am Law 60 firm. While there, he supervised teams of attorneys, agents, and staff across a wide variety of technologies, including co-leading a multi-million dollar per year patent portfolio.

With over 15 years of experience, Sean has drafted hundreds of patent applications and responded to over a thousand office actions in areas spanning software, electrical, mechanical, and physics-related technologies.

Building on this foundation, Sean launched Holder IP to offer clients the same high-level expertise with greater flexibility, responsiveness, and personal attention. His goal was to create a firm that reflects his hands-on approach and passion for helping innovators protect and grow their ideas.

Global Tech Companies

We have extensive experience working with many of the world's top companies, including **five of the Fortune 50 and two of the top five tech companies** in the U.S. We also have experience with other leading global companies in industries such as shipping, pharmacuetical, oil and gas, and scientific instruments.

World Class Universities

We have worked with over 15 national and international universities, including **half of the Ivy League schools**, in cutting-edge fields such as medical physics, AI, quantum computing, optics, and many other areas.

Startups

We have represented startup companies in a variety of technologies.

International Law Firms

We've worked with many international law firms and their clients around the globe.

Software & Data Technologies

Cloud Computing
Cloud Infrastructure (e.g., AWS)
Edge Computing and serverless architecture
Load balancing, testing, and fault tolerance

Mobile & Embedded
Mobile Apps
Wearable tech software
Embedded Systems (IoT, smart devices)

User Experience & Interfaces
Graphical User Interfaces (GUI)
Voice-controlled Interfaces (smart speakers)
Gesture-based, AR/VR, and accessbility tech

Programming Languages
Python, PHP, C++
Java, JavaScript
HTML, CSS, etc.

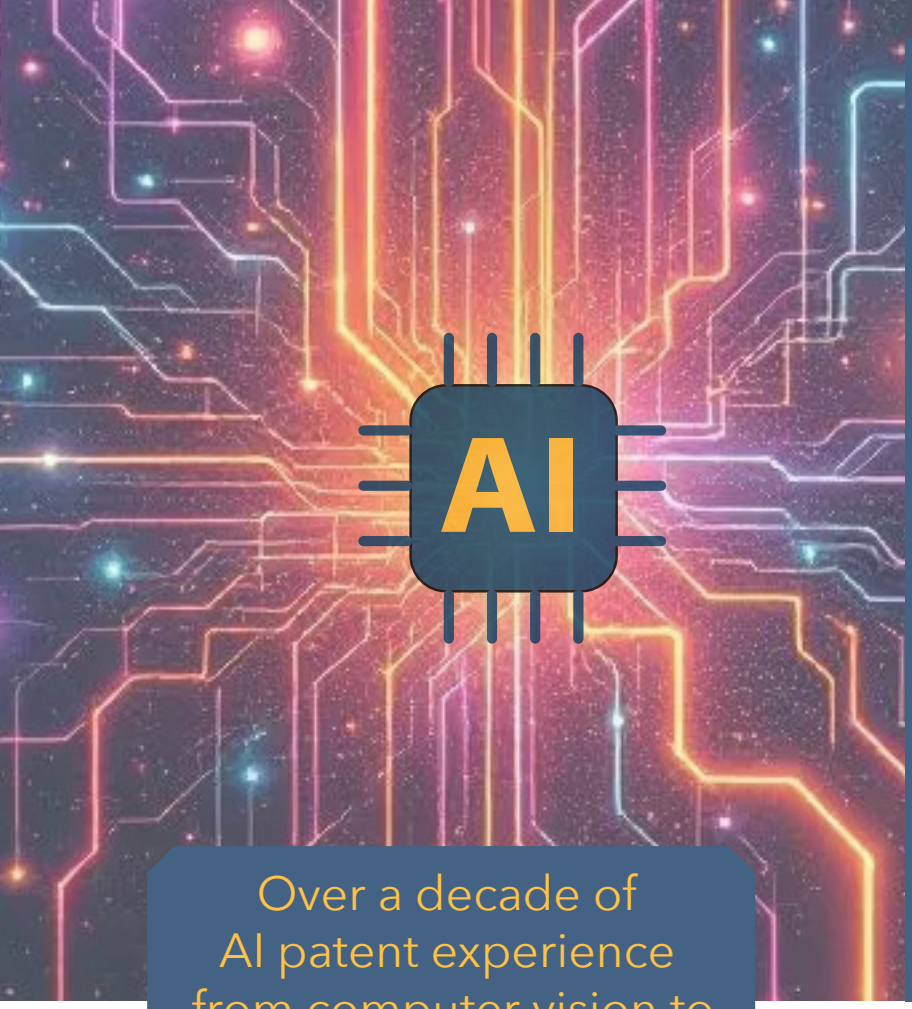
Data Technologies
Analysis & Modeling (Big Data, AI/ML, patterns)
Compression (video, audio, MPEG)
Storage & Retrieval (databases, caching)

Web & Internet Technologies
Web Software and frameworks
Content delivery networks (CDNs)
Web Security and Encryption

Artificial Intelligence
Neural Network Architectures
Computer vision
Reinforcement learning

Ad and Marketing Tech
Ad targeting systems
User profiling and analytics
Content personalization

Industry Specific Applications
Automation & Security (smart home)
FinTech (payments, lending, blockchain)
AgriTech (sensor network, crop monitoring)
HealthTech (imaging, treatment planning)
Avionics (flight systems)
Enterprise Planning (business process, inventory)
AudioTech (digital audio workstation)
Transportation (environmenal management)
Automotive (telematics, battery management)



Artificial Intelligence & Machine Learning

Over a decade of AI patent experience from computer vision to foundational models

Machine Learning
Deep Learning

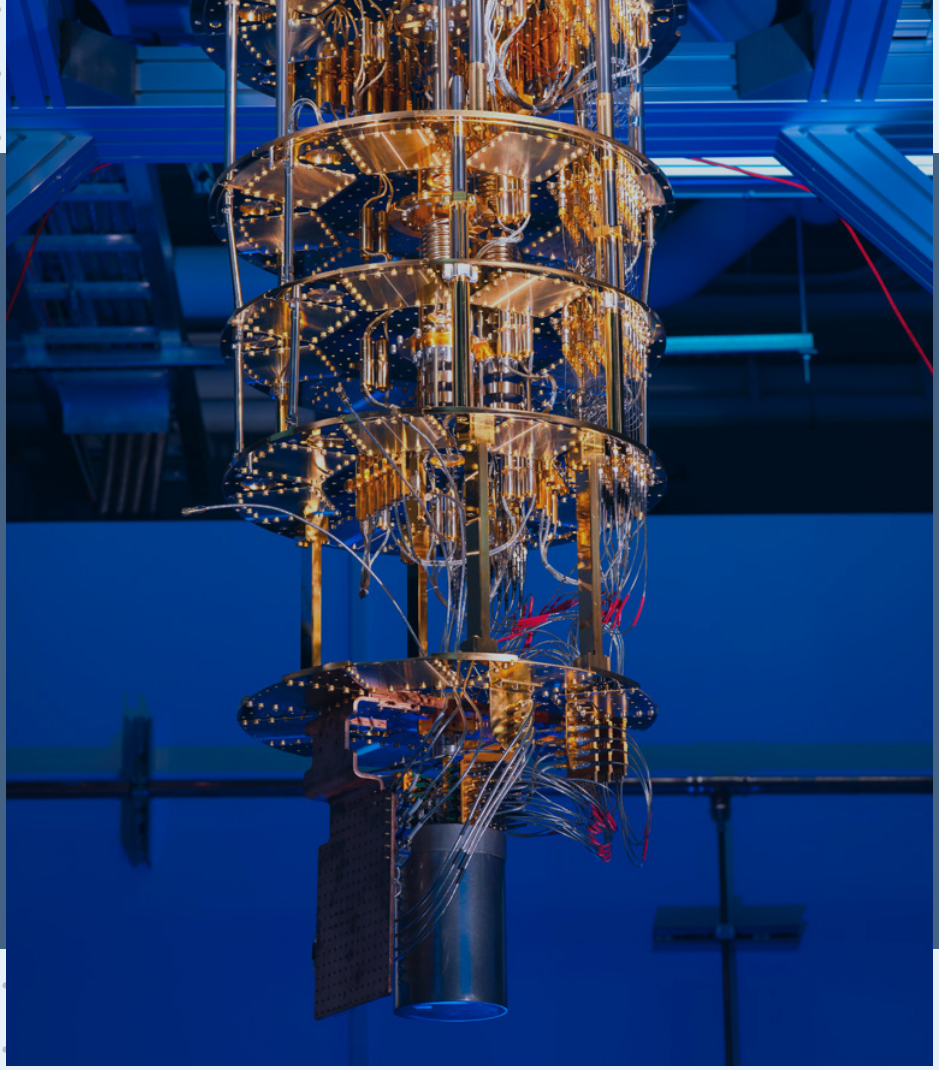
Multi-modal AI
Foundational Models
Embeddings

Neural Networks
Convolutional
Fully Convolutional

Image Analysis
Computer Vision
Tissue Classification
Medical Segmentation
Disease Quantification
Microscope Imaging
Chromatography
Cell Sorting

Speech Analysis
Financial Services
Customer Analysis

Quantum Computing

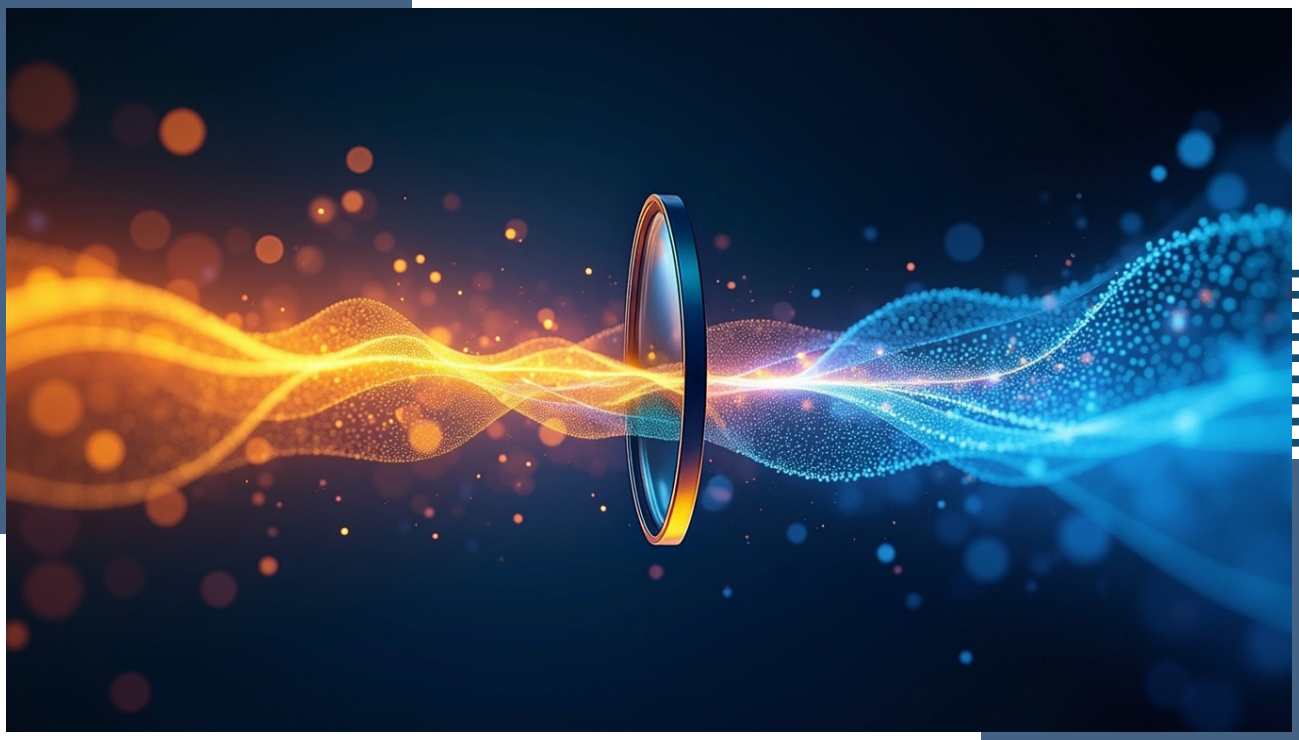


Superconducting Quantum
Silicon Quantum Dots
Qubit Arrays

Spin Qubits
Flux Qubits
Transmon Qubits

Quantum Gates
Spin State Manipulation
Spin Photon Qubit Coupling
Quantum Entanglement
Quantum Error Mitigation

Image credit: Ryan Postel / Fermilab



Optics

Photonics / Nanophotonics

Lasers, resonators, solitons, mode-locking, frequency combs, RSOA, junctions/couplings, gratings, optical switch arrays, optical phased arrays, beam steering, fiber optics

Medical Optics

Ophthalmic optics (smart contacts, correction)
Optical probes
Optical Coherence Tomography

Free Space Optics

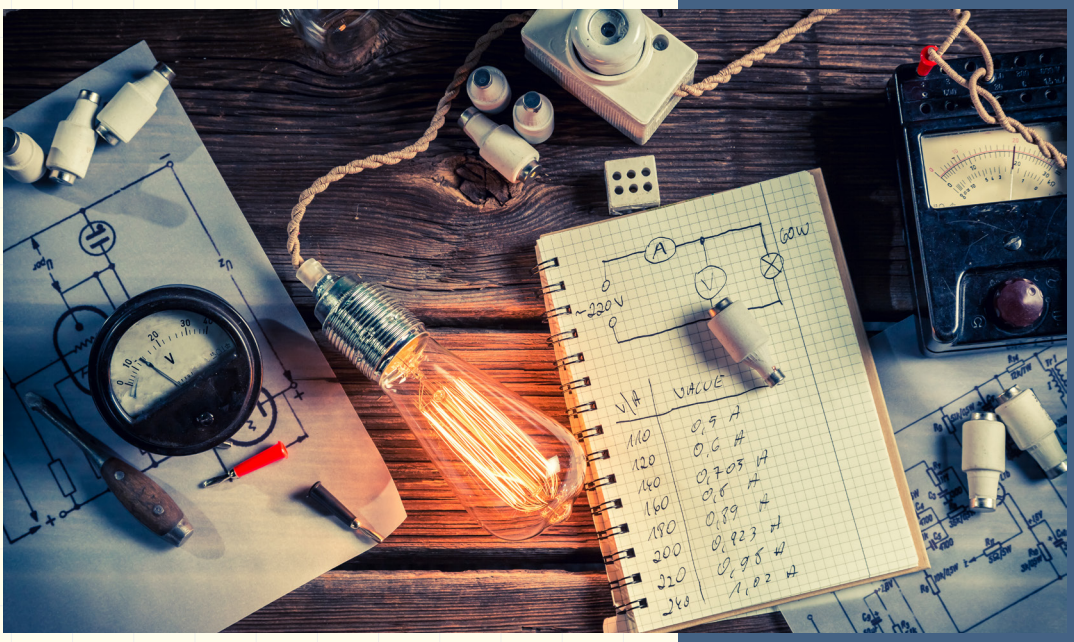
Satellite optics
Camera optics
Lab optics
LIDAR
LEDs
VR/AR

Processing

AI image processing
Neural networks
Optics related circuits

Medical Tech

AI/ML Image Analysis
X-ray Imaging
Magnetic Resonance Imaging (MRI)
Computed Tomography (CT)
Tomosynthesis
Positron Emission Tomography
Ultrasound
Image Segmentation
Image Registration
Radiation and Particle Therapy
Treatment Planning
Dose Calculation
Heart Rate Monitoring
Perspiration Monitoring
Bioinformatics



Electrical Engineering

Communication

Wireless
Optical
Antennas
Phased antenna arrays
Modulation and coding
Software defined radio

Processors

Field programmable gate arrays
CPU (load store unit, register)
Microprocessors
ASICS

Circuits

Energy
Communication
Wearable
Audio signal
Electrolysis

Energy

Electric meter circuits
Wind turbine circuits
Transformers
Inverters
Batteries

Materials

Triboelectric devices
Topological insulators
Phase change materials
Silicon based materials

Networking

Protocols

Physical and Data Link Layer

WIFI, Bluetooth, Zigbee, MoCA, Ethernet, MAC, ARP, DOCSIS, Signal modulation and demodulation (AM, QAM, FM, OFDM, pulse modulation, keying, codewords, error correction)

Network Layer

IPv4, IPv6, ARP, IPsec, MPLS

Transport Layer

TCP, UDP

Application Layer

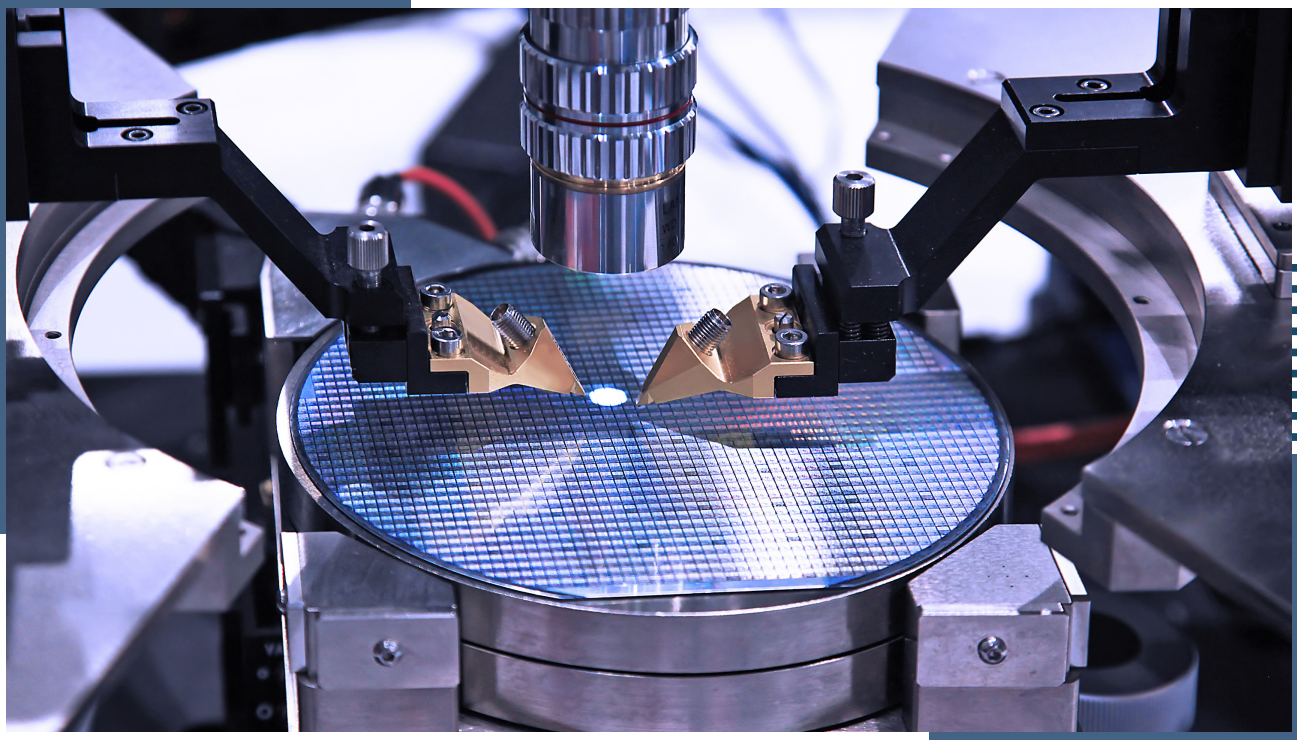
HTTP, UPNP, DNS, DHCP, SMTP, FTP, BGP

Content Delivery

Infrastructure
Adaptive streaming
Digital Video Recording
Advertising

Audio/Video Calling

PTSN
VOIP
SIP
SDP
Cellular
STIR/SHAKEN



Device Fabrication

Micro and Nano devices
Semiconductor devices

Lithography
Etching and Deposition
Doping and Ion Implantation

Quantum Computers
Photonic devices
Memory cells
Transistors
Phase change devices

AgriTech and WeatherTech

Precision Agriculture

Field Sensors
Soil Analysis
Geolocation
Water usage and irrigation

Connectivity

Mesh networks
Low power wide area networks
Edge computing

Livestock Tech

Animal tracking
Feed consumption

Weather Tech

Volcanic Ash Modeling
Land Analysis (LIDAR)
Drones

Smart Home

Remote monitoring
Interoperability with third party devices
Automation and Event Processing
Data Synchronization
Mobile and Web Interfaces
Security panels, alarms, sensors, and cameras
Lighting, locks, HVAC, and garage
Home touchscreen controllers
Gateway / Hub Management
Network Access Control
Drone Management

FinTech

Blockchain
Distributed Ledgers
Consensus Algorithms

Consumer Segmentation (AI/ML)
Lead Generation Analysis (AI/ML)
Financial Modeling (AI/ML)
Debt Collection Analytics

Auctions
Accounting
Payment processing

Mechanical Products

Design Patents
Beauty Devices
Sports Equipment
Portable Speakers
Beverage Technologies
Medical Dispensing Devices
Lighting Devices
Server Cooling
Smart Fabrics
Fire Suppression