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Moisés Cohen, MD., PhD

Full Professor of Orthopedic and Sports Medicine

Department of the Federal University of São Paulo

President 2024- 2026

How AI Transformed My Medical Practice

- A short journey from playful curiosity to evidence-based transformation in my practice.
- Discover practical tools that enhanced patient care, clinical documentation, and scientific rigor
- Always keeping the human touch at the center.

THE BEGINNING

It All Started as a Game

- Every transformative journey begins with a simple moment of curiosity.
- Pure entertainment opened an unexpected door.
- The same creativity that brought joy to my family could revolutionize how we communicate medicine.

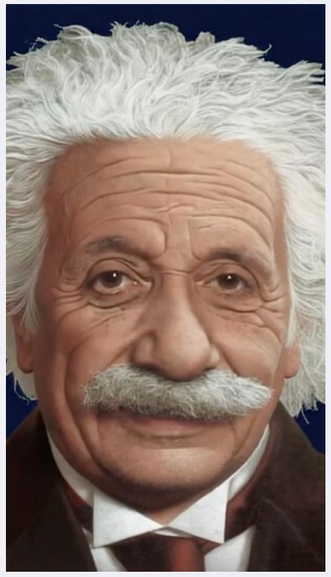
From Entertainment to Educational Storytelling

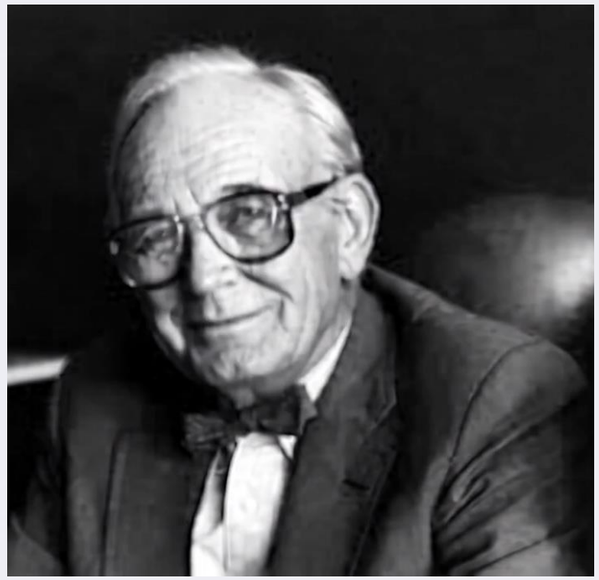
Bringing History to Life

Using AI to recreate voices and presence of pioneers for educational tributes and historical context

Emotional Connection

Stories that honor the past while teaching the present—colleagues began requesting similar content for their own teaching





The Power of Narrative

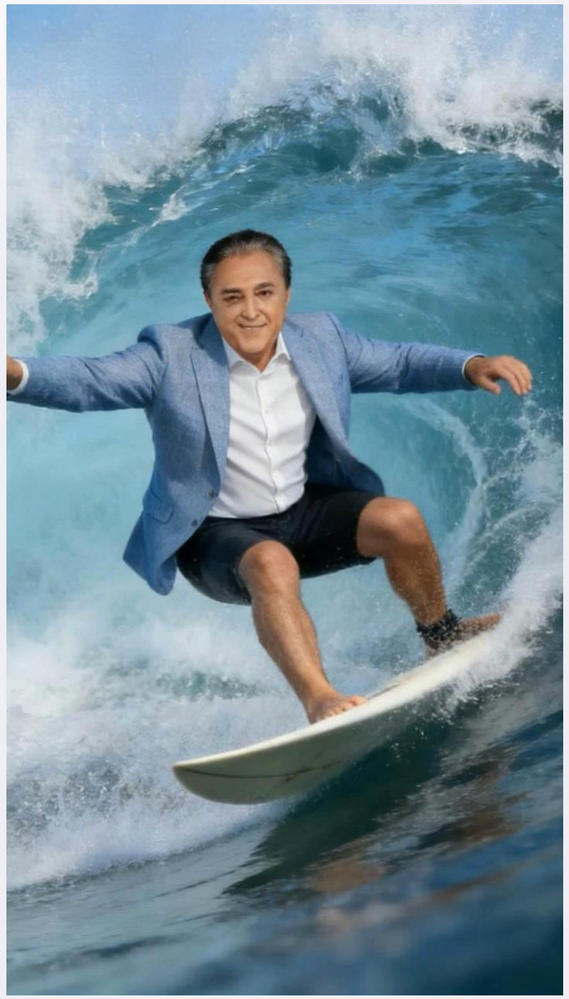
Medical education transformed when we combine evidence with compelling storytelling that resonates emotionally


ACL
Study Group

THE CREATIVE SIDE

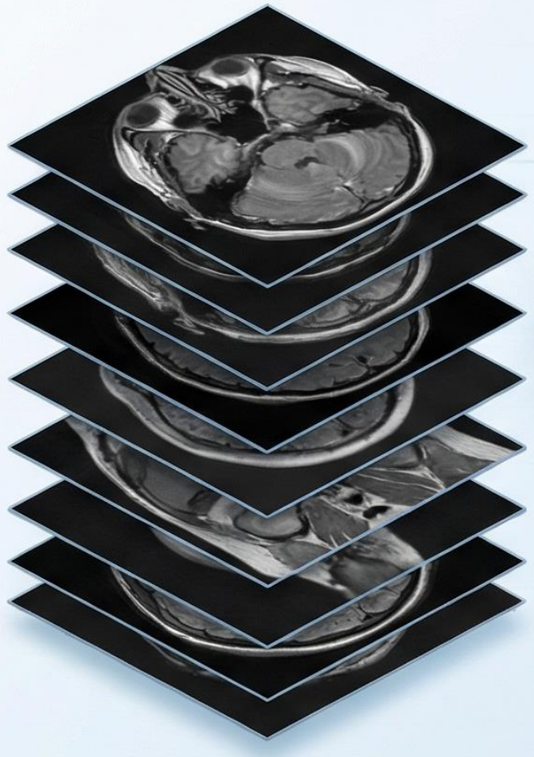
Hollywood-Level Production Meets Medical Education

- The image quality in medicine is very important to engage drives learning
- High-quality visual is strategy to engage the audience
- The medium amplifies the message.
- Professional production removes barriers to learning.



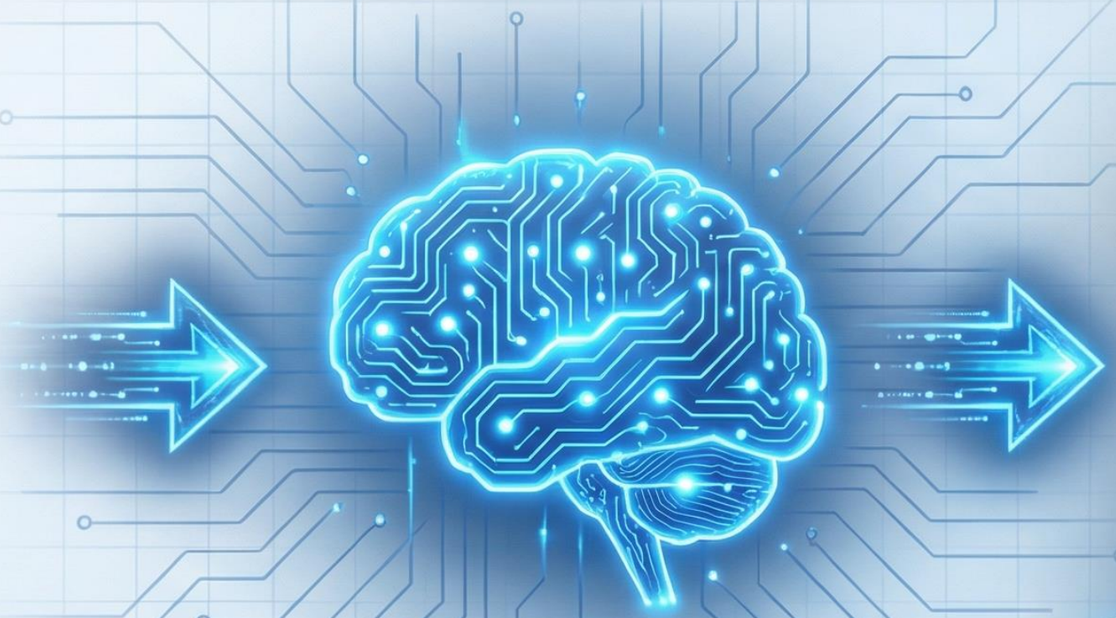
From 2D Scans to 3D Insights: The AI Reconstruction Pipeline

INPUT: STANDARD 2D MRI SLICES



Standard clinical DICOM files, which are stacks of 2D images.

AI PROCESSING (CNN / Deep Learning)

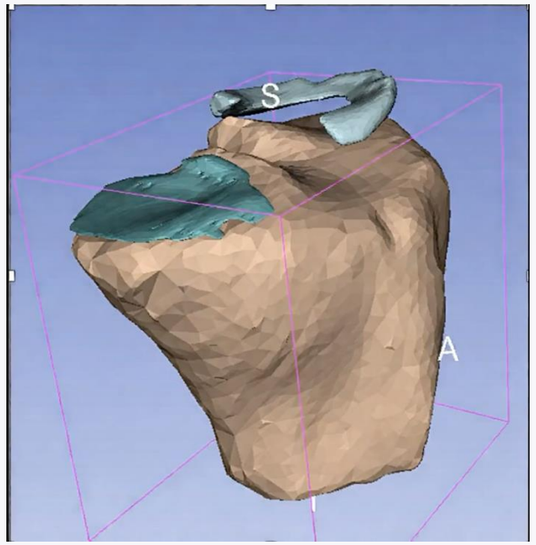


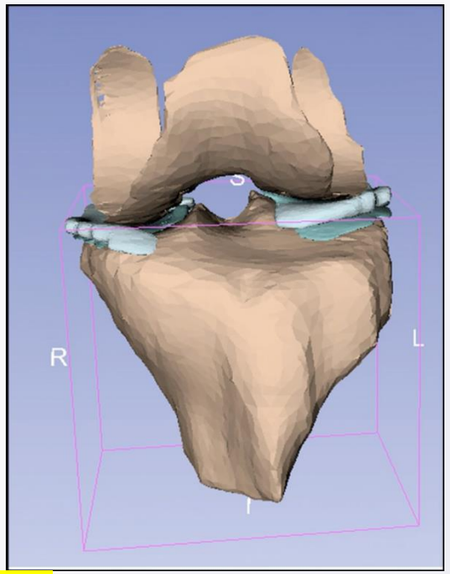
A Convolutional Neural Network (CNN) analyzes each slice to automatically identify and segment anatomical structures.

OUTPUT: 3D VOLUMETRIC ANATOMICAL MODEL

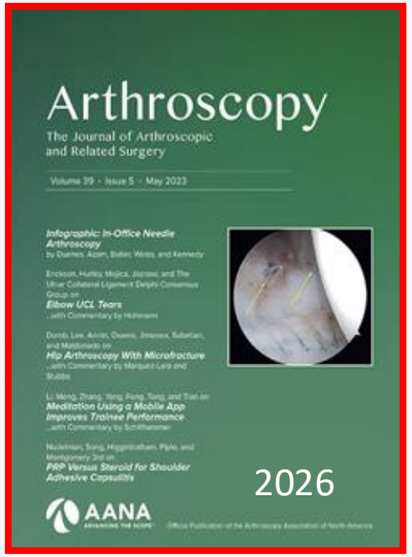
The segmented slices are compiled to create a precise, interactive 3D model of the joint.

SCIENCE, LEARNING AND RESEARCH





3D models – Prediction of ACL Lesion



Distinct 3D Anatomic Patterns Including Flatter Surfaces and Greater Sagittal Inclinations of Intra-Articular Structures Are Reliably Identified Through an Artificial Intelligence-Based Pipeline in ACL Injured Knees.

Oliver Meyer[1,2,] MD; Joicemar Tarouco Amaro[1,3]MD, PHD; Camila Kaleca[1,3]MD, PHD; Pedro Debieux[1,3]MD, PHD; Nilton Gomes Filho[1,3]MD; Moises Cohen[1,3]MD, PHD

THE PIVOT TO SCIENTIFIC RIGOR

More than beautiful videos, Medicine requires uncompromising scientific integrity.
This is where AI revealed its most valuable application.

AUTOMATED DETECTION
Detects inconsistencies, contradictions, & gaps in clinical reasoning BEFORE reaching patients.

SYSTEMATIC MANAGEMENT
Manages literature across projects with instant retrieval & citation verification.

PROPER ATTRIBUTION
Ensures research & educational content maintains academic standards.

CLEAR DIFFERENTIATION
Differentiates between peer-reviewed evidence & expert opinion—transparency in knowledge hierarchy.

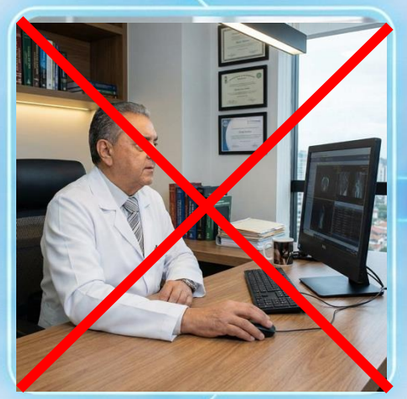
CRITICAL PRINCIPLE: AI does not replace clinical judgment.
Human verification and governance are mandatory.
Every output requires expert review.

CLINICAL IMPACT: The Daily Practice Transformation

Returning to Patient-Centered Care with AI

BEFORE AI IMPLEMENTATION

- 40% Time Typing, Admin Burden
- Eyes on Screen, Not Patient
- Delayed Documentation, Memory Gaps
- Inconsistent Note Structure
- Mental Fatigue, Burnout
- Reduced Patient Education Time



AFTER AI IMPLEMENTATION

- Natural Conversation Flows Uninterrupted
- Direct Eye Contact, Engaged Visit
- Real-Time Documentation Capture
- Specialty-Specific Structured Notes
- Energy Focused on Clinical Reasoning
- More Time Explaining Diagnosis & Treatment

The difference isn't just efficiency—it's returning to why we became physicians.
To connect with patients, not computers.

THE AUTOMATED CLINICAL SYSTEM: STREAMLINING DOCUMENTATION

NATURAL CONVERSATION

- Physician & patient speak naturally; system records without intrusion.

INTELLIGENT TRANSCRIPTION

- Speech converted to specialty-specific structured format (ACL, trauma, arthroplasty templates).

MULTILINGUAL SUPPORT

- Automatic translation enables documentation in any language without workflow disruption.

SAFETY CHECKLIST

- System suggests differential diagnoses and relevant tests as verification prompts—never as mandates.

The entire consultation is patient-focused—examining the knee, discussing concerns, explaining options. The scribe captures everything. After the patient leaves, review the generated note, make clinical adjustments, and approve. What once took 15 minutes of post-visit typing now takes 2 minutes of review.

PRINCIPLE: The system suggests, but never decides. Every hypothesis and test recommendation requires physician verification.

Ethics, Privacy, Security, and Governance in AI Healthcare

Patient Privacy

Full HIPAA compliance, encrypted transmission, no cloud storage of identifiable data without explicit consent.

Informed Consent

Patients informed about AI use in documentation; opt-out always available without affecting care quality.

Data Security

Local processing options, audit trails, access controls, regular security assessments.

Bias Mitigation

Regular audits for algorithmic bias, diverse training datasets, transparency in system limitations.

Clinical Responsibility

Physician remains solely responsible for all clinical decisions; AI outputs are suggestions requiring verification.

Governance Framework

Institutional oversight, regular quality reviews, continuous improvement protocols, mandatory human verification.

Non-negotiable principle: AI augments clinical practice but never replaces the physician-patient relationship, clinical judgment, or professional responsibility. Every system output requires expert human review.

RESULTS

Measurable Impact on Practice

65%
Time Saved
Reduction in documentation time per patient encounter, returning time to direct patient care.

40%
Quality Improvement
Increase in note completeness and standardization across cases.

3X
Educational Output
Growth in teaching materials produced, from lectures to patient education resources.

92%
Patient Satisfaction
Positive feedback regarding physician attention and communication during visits.

Beyond Metrics: The Real Transformation

- Returning home with energy for family, having mental space for complex clinical reasoning.
- Rediscovering the joy of medicine. Looking patients in the eye instead of at a screen. Teaching residents without documentation fatigue.

My Learning Commitment

Since March, maintained formal AI training twice weekly (Tuesday & Thursday, 6-9 AM) with a dedicated instructor. This is systematic professional development ensuring responsible, informed implementation.

The Future of Medicine: Guiding AI & Reclaiming Humanity

The question isn't *if* AI will change medicine—it already has.
The challenge is guiding this change responsibly.

Using Technology to Reclaim Our Humanity:

- *Spend more time with patients.*
- *Think more deeply about complex cases.*
- *Teach the next generation.*
- *Return home with energy for our families.*

Empowering Medicine, Enhancing Life.

IA WhatsApp

IA Telegram

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Thank You