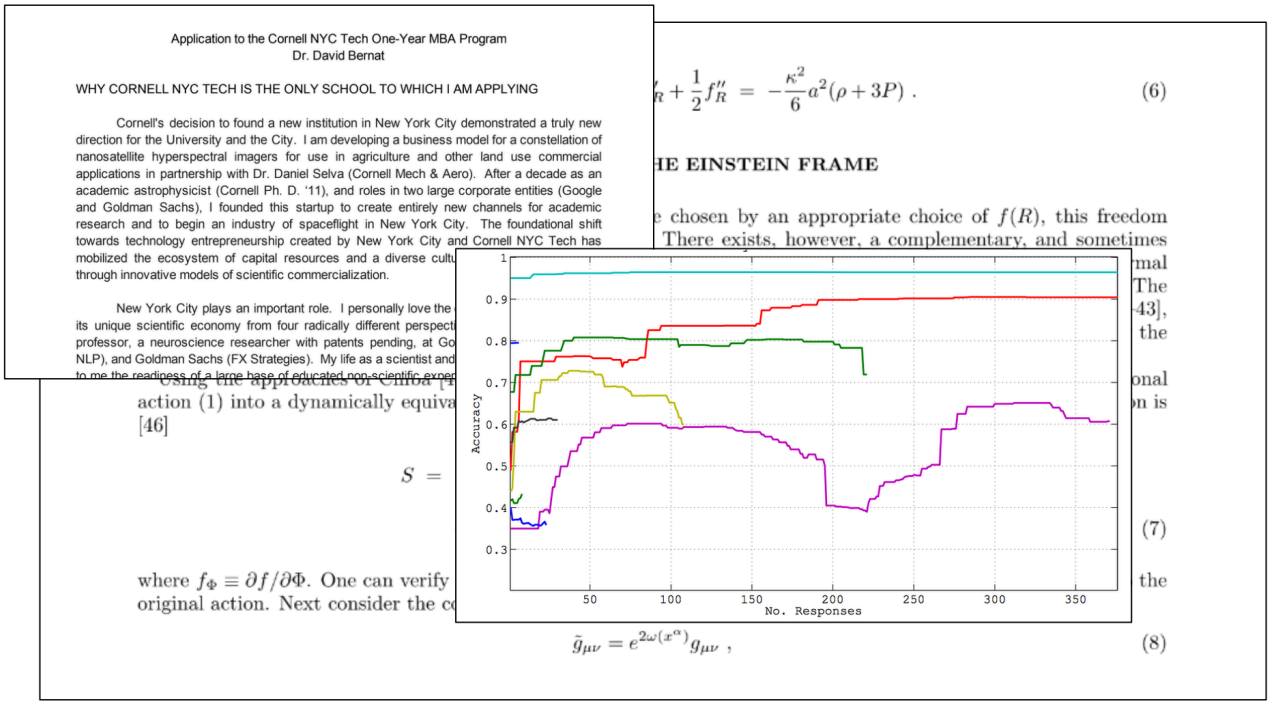
**Hear me talk about physics & deep learning**
**David Bernat // Starlight LLC // July 21, 2026**

Let me cut to the chase, because if you came here you are probably a busy human being who prides himself on making hard decisions around people who do not understand the work you had to do to make the decisions easy. The magic of AI is not in the all-consuming electricity and cognitions seeded inside some Large Language Model feeding off synthetic synapses. The talent of AI is in its astonishing talent to source the information it needs, when it needs it, and to synthesize it all into results. Throw in the magic of a little regulated process and workflow routine and you have a hit on your hands. It does not matter whether the project is code, insight, or math.

Beyond that you will drive yourself crazy with measurements of whether a specific type of logic is fundamentally ten times harder or easier. But your time is better spent focusing on your audience, on what they already understand and interpret as content knowledge, and what they are feeling.


Application to the Cornell NYC Tech One-Year MBA Program
Dr. David Bernat

WHY CORNELL NYC TECH IS THE ONLY SCHOOL TO WHICH I AM APPLYING

Cornell's decision to found a new institution in New York City demonstrated a truly new direction for the University and the City. I am developing a business model for a constellation of nanosatellite hyperspectral imagers for use in agriculture and other land use commercial applications in partnership with Dr. Daniel Selva (Cornell Mech & Aero). After a decade as an academic astrophysicist (Cornell Ph. D. '11), and roles in two large corporate entities (Google and Goldman Sachs), I founded this startup to create entirely new channels for academic research and to begin an industry of spaceflight in New York City. The foundational shift towards technology entrepreneurship created by New York City and Cornell NYC Tech has mobilized the ecosystem of capital resources and a diverse cultu
through innovative models of scientific commercialization.

New York City plays an important role. I personally love the
its unique scientific economy from four radically different perspect
professor, a neuroscience researcher with patents pending, at Go
NLP), and Goldman Sachs (FX Strategies). My life as a scientist and
to me the readiness of a large base of educated non-scientific exper

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How did a physicist end up in deep learning and information technology? By this point in the AI Hype Cycle, you probably already know the answer. The trajectory of physicists finishing their academic careers and trading math for code in the data sciences is well-spoken about a decade later. Time was an entrepreneur would not even know Monte Carlo methods or Bayesian priors, if you can believe it!! That was back when “a convolution” was a cognitive-science term borrowed from signals processing and audio engineering, and the only people who understood why deep learning would go on to be so insightful were the Navy engineers deep in government research.

To put it all in a way I understand: the world is full of rules, and deep learning solves for which rules matter, and to what magnitude, so you are freer to generate billions of rules to decide what matters.

The rest is computer engineering and information systems because, as I said at the top, the power of these systems is breaching a level of semantic sophistication we perceive as good enough to learn from. That said: build a system that can learn to teach itself, and what gets in its way?

From my perspective, as a physicist, nothing is surprising about this. Whether this era would arrive a few years ago or next year is an important, challenging question; and positioning myself to answer it better than my peers, and better than you, my employer or my reader, is exactly my job. But the notion that these systems would be the go-to advancement this decade is obvious.

It takes money. But not in the way you think it does: the joy of being a physicist in industry is that the good job done today for a customer pays for the research to build the machinery of tomorrow. The operations loop is what came to matter to me and drew me to startup mindsets instantly.

Where do we go from here? Sector analytics. Physics will eventually turn the corner, the one the writing community is now turning. Which means that the semiconductor components in your home might be magnitudes better next decade, if we can properly allocate the capital today. The grass on your lawn may be outfitted with incredible biology underneath fertilizer your child can eat, and the only barriers to entry are the acquisition and allocation of capital to entrench in new industries. I would like to say I am a mastermind at business acquisition of capital: but I am the great physicist.