

Academic Growth Through Ethical Investigation

How Critical Research Transformed My
Understanding of Technology's Hidden Costs

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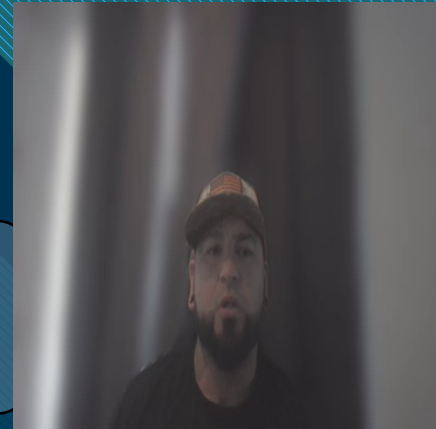


From Industry Experience to Academic Inquiry

- Started with practical knowledge of BESS technology
- Recognized my perspective was limited to technical operations
- Chose to investigate the broader ethical implications
- Applied academic research methods to real-world technology
- Discovered how scholarly investigation reveals hidden complexities

Quote From Me: “

My industry experience provided the questions, but academic training provided the tools to find meaningful answers”



Academic Approach: Beyond Surface Analysis

- **Initial Assumptions**

Moved beyond **anecdotal experience** to systematic research

- **Source Evaluation**

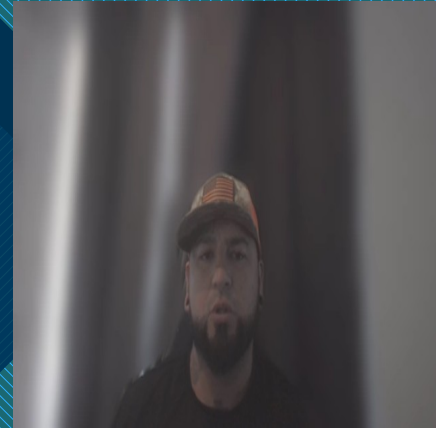
Evaluated sources from academic journals to legislative documents

- **Critical Analysis**

Applied ethical frameworks learned in General Education courses

- **Ethical Framework**

Synthesized complex, contradictory information into coherent analysis



Uncovering the Supply Chain Crisis

- **Initial Research Focus**

- Local community safety concerns about BESS installations

- **Critical Realization**

- Local communities actually benefit from the technology

- **Deeper Investigation**

- Supply chain research revealed global exploitation patterns

- **Academic Insight**

- The real ethical crisis exists at extraction, not deployment



Evidence-Based Ethical Analysis

Ethical Insights

66% growth in BESS capacity created supply bottlenecks

Academic sources documented child labor in cobalt mining

Research revealed indigenous displacement across three continents

Found legislative responses like the Uyghur Forced Labor Prevention Act

Discovered emerging sodium-ion alternatives through technological literature



Quote From Me: “

Academic research revealed systematic patterns of exploitation hidden behind clean energy markets



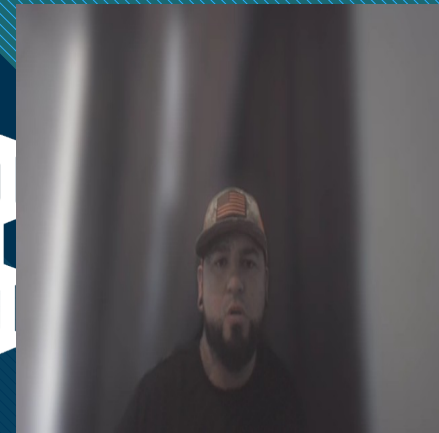
Developing Academic Research Skills

The Challenge: Information Overload

- Overwhelming volume of data from multiple disciplines
- Struggled to maintain coherent analytical structure
- Difficulty distinguishing credible from unreliable sources

The Academic Solution: Systematic Methodology

- Created a narrative thread to guide analysis
- Developed source evaluation criteria beyond peer review
- Applied critical thinking frameworks from COLL 148



My Evolved Research Methodology

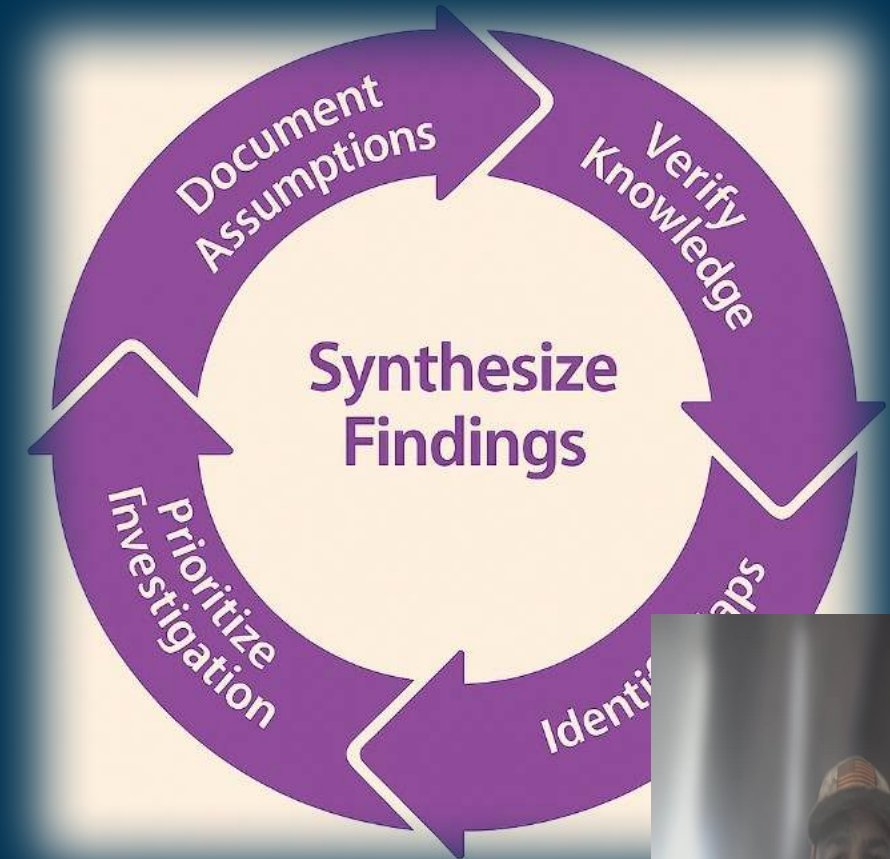
**Establish clear research plan
with documented assumptions**

**Systematically verify existing knowledge
before building upon it**

**Identify exactly three unknown aspects to
prevent overreach**

**Choose the most relevant unknown to my
central argument**

**This approach yields substantive
results without the inefficiency of constantly
revisiting directions**



Technology, Society, and Critical Analysis



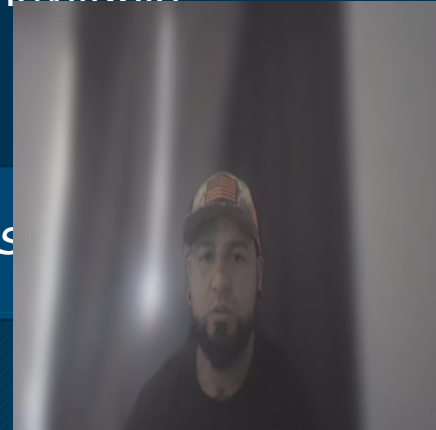
Innovation without ethical guardrails is dangerous

People pursue ends without considering the means

Sometimes the end result was always inevitable

Quote From Me: “

Innovation's inherent danger: sometimes the end result becomes inevitable regardless of costs”



How Gen Ed Courses Enabled This Analysis



COLL 148 - Critical thinking frameworks for complex analysis

ENGL 135 & 216 - Research methodology and technical communication

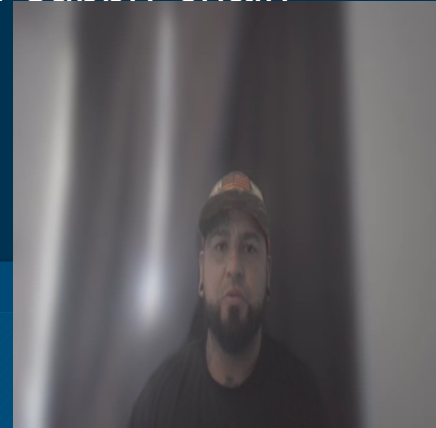
SOCS 325 - Environmental sociology lens for understanding community impacts

ECON 312 - Economic frameworks for supply chain analysis

These courses provided the analytical tools to move beyond surface analysis.

Quote From Me: “

General education didn't just teach me facts it fundamentally changed how I conceptualize problems and approach investigation”



Continued Academic Development



Digital Fluency: My Growth Opportunity

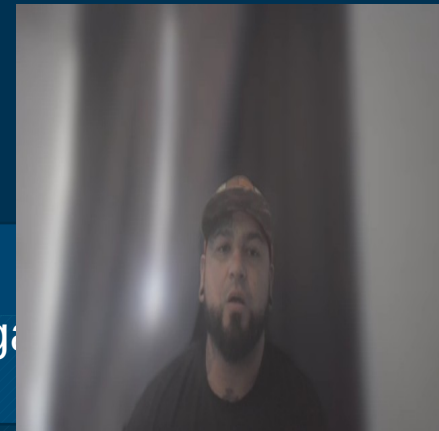
- Accelerated education prioritized completion over mastery
- Need deeper proficiency in analytical software and tools
- Future learning will prioritize depth over speed

My Academic Development Strategy

- Pursue advanced technical certifications
- Focus on true competency rather than surface familiarity
- Apply systematic learning methodologies developed in this project

Quote From Me: “

The trade-off between speed and depth taught me the value of sustained, focused academic eng

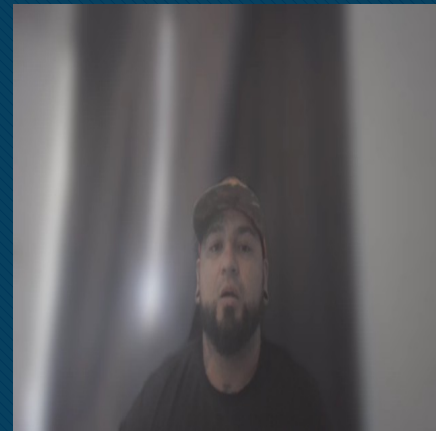


From Academic Investigation to Professional Impact

- Academic research revealed systematic ethical issues in my industry
- Critical thinking skills enable evaluation of complex technological decisions
- Research methodology provides framework for ongoing professional analysis
- Ready to contribute evidence-based ethical perspectives to industry discussions

Quote From Me: “

"Academic training transformed me from someone who works with technology to someone who critically evaluates its broader implications"



References

Key Academic Sources:

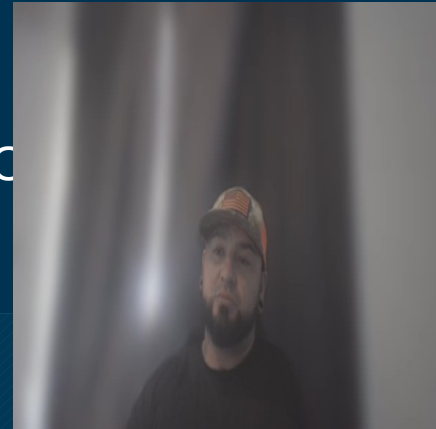
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- CleanTechnica. (2024, November 19). CATL will put its second-generation sodium-ion batteries into production in 2025.
- U.S. Department of Energy. (2020, December). *Energy Storage Grand Challenge Roadmap* (DOE).
- United States of America. (2021). Uyghur Forced Labor Prevention Act. *Public Law*.



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General Education Course Foundation:

- COLL 148 - Critical Thinking & Problem-Solving, DeVry University
- ENGL 135 - Advanced Composition, DeVry University
- ENGL 216 - Technical Writing, DeVry University
- SOCS 325 - Environmental Sociology, DeVry University
- ECON 312 - Principles of Economics, DeVry University
- CARD 205 - Career Development, DeVry University

