Hackathon Project Proposal: "Compute-Politik"

Project Title: "Compute-Politik": A Supply-Side AI Forecasting Dashboard

Core Idea: Most AI forecasting models focus on *demand-side* factors (e.g., algorithmic progress, scaling laws). We propose a novel, *supply-side* model. Our project will be a visual dashboard that forecasts AI progress by modeling the impact of socio-political and economic events on the two key physical bottlenecks: **compute hardware** and **human talent pipelines**.

Addressing the Judging Criteria

Here is how this project directly addresses the three main judging criteria, leveraging the research from your "Compute (Supply) Gov Mapping" proposal.

1. Forecasting Relevance (Score: 5/5)

Does the project advance AI timeline prediction? Offers novel methodologies? Focuses on measurable AI progress indicators?

- **Novel Methodology:** This project offers a fundamentally novel forecasting methodology. Instead of just extrapolating performance on benchmarks (a "demand-side" view), we are modeling the "supply-side" constraints. **Our core hypothesis: AI progress cannot outpace its physical supply chain.**
- **Challenges Existing Literature:** It challenges models that treat compute access and talent as an abstract, infinite resource, grounding them in the geopolitical and economic realities of production.
- **Measurable Indicators:** We will focus on measurable, *leading* indicators of AI progress, based on your **Phase 1 (Hardware)** and **Phase 2 (Talent)** research:
  - **Hardware:** Forecasted growth/contraction in advanced packaging (ATP) capacity in ASEAN (e.g., units processed/year).
  - **Talent:** Forecasted number of "high-skill semiconductor engineers" graduating in Malaysia/Vietnam by 2028.
  - **Risk:** Likelihood of supply chain disruption (e.g., 0-100%) based on political instability indicators.

2. Strategic Value (Score: 5/5)

Does this meaningfully inform AI governance and preparedness? Advances understanding of capability emergence?

- **Informs AI Governance:** This is the *entire point* of your research. This tool would be a "Policy-to-Impact Simulator." A policymaker could ask:
  - "What is the real-world impact of sanctioning advanced substrate exports to Country X?"
  - "How much does Vietnam's '50,000 engineer' program *really* accelerate their domestic AI capability?"
  - "Where are the new, ungoverned compute 'leaks' likely to emerge in the next 5 years?"

- **Advances Understanding of Capability Emergence:** We provide a model for the *emergence of the inputs* for capability. Instead of reacting to a new AI model *after* it's built, this tool allows policymakers to see the *foundations* (factories, talent hubs) being laid 3-5 years *before*, which is a critical, high-leverage intervention point.
- **Reduces Uncertainty:** It directly addresses your "power concentration" theme by modeling and visualizing how de-risking the supply chain (e.g., by building up ASEAN) could increase global stability and resilience.

3. Execution Quality (Score: 4/5 - *for the hackathon*)

Is the project rigorous, reproducible, and well-scoped for a weekend?

This is the key. We must be **ruthlessly well-scoped**. We cannot model the *entire* world. We build a Minimum Viable Product (MVP).

- **Well-Scoped (The "MVP"):**
    1. **Focus:** We will *only* model the ASEAN region, leveraging your existing research.
    2. **Data:** We will start with 2-3 key data points you've already identified (e.g., Vietnam's 50k engineer goal, Intel's investment in Malaysia).
    3. **Methodology:** We will create a simple dashboard (e.g., in HTML/JS, or even just a shared Observable notebook) with 3-5 "input sliders" (your "socio-political things").
    4. **Model:** The "model" will be a set of simple, transparent formulas (e.g., $New\_Engineers = (Base\_Rate * Investment\_\$) + (Policy\_Bonus * Time)$). The value is in the *idea* and *visualization*, not a complex black-box model.
- **Visualization (Your Core Idea):** The output will be a visual forecast (a line chart) showing the "Projected Talent Pool" or "Packaging Capacity" changing from 2025-2030 as the user plays with the sliders.
- **Uncertainty Quantification:** We will explicitly show uncertainty with high/low bounds (e.g., "fastest plausible" vs. "slowest plausible" talent growth). This is a core part of good forecasting.
- **Reproducible:** Yes, because the data sources (public reports, government goals) and the model (simple, explicit formulas) will be fully documented.

Your Action Plan

1. **Register NOW:** The hackathon starts today.
2. **Form Team (or go solo):** You are the domain expert. You just need 1-2 people who can build a simple web dashboard (HTML/CSS/JS) *fast*. If you can't find them, a tool like Observable, Streamlit (Python), or even a well-designed Figma prototype that *demonstrates* the idea would be a strong contender.
3. **Submit this Proposal:** Use the text above (or a summary of it) for your project submission.
4. **Execute:**
    - **Day 1 (Fri):** Lock down the scope. Define your 3-5 input variables and your 2-3 output charts. Collect the 5-10 key data points from your research.
    - **Day 2 (Sat):** Build the model (the simple formulas) and the visualization.

- - **Day 3 (Sun):** Refine the presentation, record the video, and write up your documentation, *explicitly* stating how you hit the three judging criteria.

This project is a winner. It's novel, strategically valuable, and perfectly aligned with your unique expertise. Good luck!