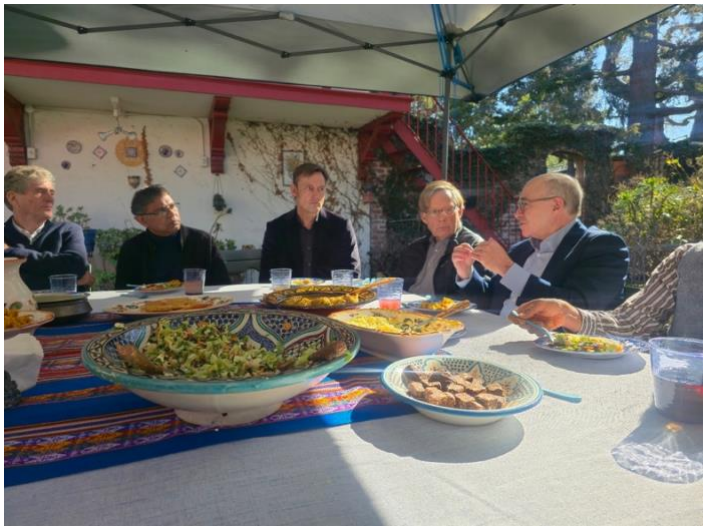
Reflections from a Silicon Valley Luncheon Dialog Bridging Sustainable AI with Human Development & Agency - Radhika Shah

Innovations in Causal AI, System2 Thinking AI, Edge AI and AI for All

At a recent garden luncheon in Palo Alto on a sunny California afternoon, two of the SDG Digital Transformation Lab co-founders, Craig Cogut and I, convened a few brilliant local and global tech and community leaders, funders, and academics (including Causal AI Stanford Prof. Vasilis Syrgkanis) in a dialog on how innovation in Sustainable AI could advance human development and engender agency.

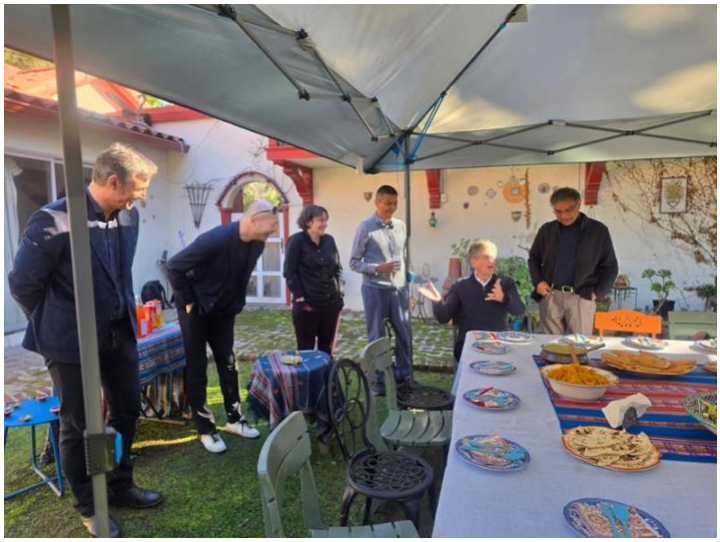
Craig Cogut, Founder, Chairman, and CEO of Pegasus Capital Advisors, who was visiting from New York, shared his career journey and the Pegasus story of bridging profit and impact—how Pegasus, a leading private markets investment manager, has focused on generating strong returns for investors through investments that create jobs, expand access to clean energy, promote water and food security, and build stronger local communities.

Craig and I, both founding Co-Chairs of the SDG Digital Transformation Lab, opened the conversation by sharing how the Lab bridges advanced technologies – including AI and Data Science – with multi-stakeholder round tables and facilitates the co-ideation and co-creation of innovative digital solutions, sustainability practices, and new approaches to measuring impact, with an initial focus on Indonesia, India, Mexico, and pan-Africa. Lab advisor and Stanford professor Vasilis Syrgkanis shared examples of Causal AI Innovations, such as the Digital Data Driven Social Vulnerability Index (DDSVI) that can help advance climate resilience solutions. See the recent Pegasus and SDG Lab Press Release for further context on DDSVI.



Sustainability & Development Challenges Posed by Data Centers and Clean Energy Solutions

The interactive dialog started with participants sharing concerns on how AI and AI data centers could negatively impact critical resources much needed by humanity, such as electricity and water, as well as how the increased demand of these critical resources could negatively impact the environment and our planet.



Marc Porat, founding CEO of General Magic and a climate investor from Silicon Valley, shared perspectives on clean energy innovations including SMRs (small modular reactors with lower capital costs and improved safety for clean electricity available 24 hours a day). He surveyed the participants on their views on nuclear energy as a clean energy option to address the rapidly increasing energy demands of data centers and our planet. In Marc's opinion, the greatest challenge to climate change is the relentless demand for energy. He explained that even impressive improvements in the chipset and algorithms – radically reducing energy per token – are swamped by exponential growth in demand. Electrons are consumed in AI factories to create tokens, and tokens create intelligence. As a result, energy converts to intelligence. With no energy, there is no intelligence.

A lively discussion ensued with Marc and Rick Degolia, a Silicon Valley climate/clean tech leader and the former mayor of the city of Atherton, sharing their firm views that clean nuclear energy innovation is an essential complement to renewable energy as we race into the AI age with its greatly increased demand for more electricity.

Other participants expressed concerns around overall safety, nuclear waste storage, and environmental impact. Marc then shared his view that the latest clean nuclear energy innovations could make several of the concerns with former models less relevant. Craig also offered his perspectives on alternate energy options, including nuclear and hydro-electric energy.

Stanford Research Fellow, Member of European Union Expert Group on Blockchain Ethics, and former European Biogas company executive, Soren Juul Jorgensen touched on options such as biogas and shared plans for an innovation lab in Nairobi with a project on digital sovereignty. Soren shared that the EU has a strong focus on greening and diversifying its energy mix and SMRs are part of the EU's energy strategy. Stanford Doerr School of Sustainability leader Parul Gupta shared her perspectives on the most promising solutions today and in the near future, including her passion for catalyzing youth worldwide to work on real-world sustainability challenges.

India focused philanthropists Ambarish Malpani (former security software company Valicert cofounder/chief architect and former CTO/VP Engineering of EdTech company Edmodo) and Uma Venkataraman (former data analytics leader) shared their perspectives on the importance of local

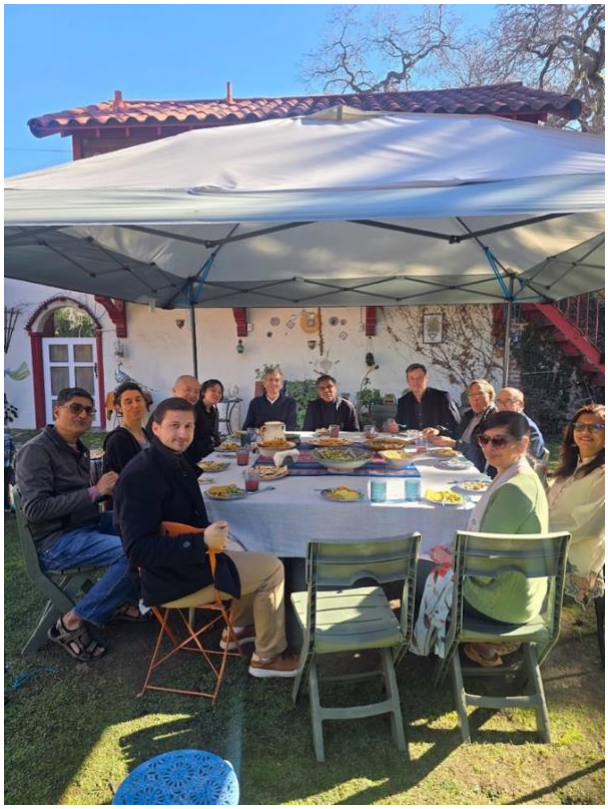
energy production and consumption, grounded in rural community empowerment and upliftment, as well as the importance of giving voice to the grassroots.

Artificial Intelligence, Arts and Human Agency

Lab advisor Sam Hamilton, former SVP of Data and AI for Visa, challenged us to think of ways to democratize the benefits of AI and enable access to all. He urged us to consider fostering ecosystems that engender AI innovation throughout the AI stack – creating opportunities for many businesses and consumers alike to thrive, rather than just a few. This vision of democratizing AI innovation via ecosystems could create opportunities and increase agency of AI entrepreneurs around the world.

Dr. Temina Madon, co-founder of the Agency Fund and former founding Executive Director of the Center for Effective Action at UC Berkeley, brought focus around the topic of human agency in this moment of AI, and shared her concerns around how AI might be decreasing agency of young people. She discussed the work of the Agency Fund in supporting organizations advancing human agency around the world. Wataru Baba, a former Panasonic and SAP executive, visiting Professor at Tokyo University, and Pegasus advisor, also shared his perspectives—drawing on examples from cognitive science and music—on the importance of human-centered, interdisciplinary approaches to breaking down silos in addressing complex challenges.

Engendering System2 Deliberate Thinking in AI and Edge AI Solutions that Sniff out Wildfires



Fellow Stanford alum Emily McMilin, a Senior Research Scientist at a leading AI lab, shared perspectives on test-time scaling in the new reasoning-model paradigm, balancing the extra token cost against the new capabilities it unlocks. I described a Stanford SPARQ research study that I was part of, and how getting humans to slow down and think even for a few seconds can dramatically alter decisions and outcomes on how they behave towards other humans. Participants were intrigued by the parallels with this kind of System2 slow, deliberate AI thinking that can increase analytical reasoning and lead to better outcomes. Other participants shared concerns of increased energy use from slowing down AI to think, and discussed the tradeoffs of making AI more efficient. A healthy debate ensued on the pros and cons.

Last, but not least, Anirudh Sharma, a former researcher affiliate at MIT Media Lab who leads the Spatial AI initiative at Amazon Lab126 (inventing novel multimodal AI interfaces for future consumer devices), shared perspectives on AI at the edge, including WYWA.ai, a nonprofit wildfire early warning initiative. WYWA.ai builds AI powered sensors that can "smell" subtle chemical signatures and relay actionable alerts across regions with little or no connectivity. Anirudh also showcased MIT Solve catalyzed AIR-INK, which captures air pollution from India and converts it into black inks (unlike regular ink which is created by burning fossil fuels).

The dialog ended on a note of optimism and the hope that we can collectively advance sustainable futures in this moment of AI transition.

Photo credits to Anirudh Sharma.

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