What is "Deep Humanities"?
– By Dr. Revathi Krishnaswamy –

Silicon Valley's tech titans not only dazzled the world with brilliant technological inventions and innovations, but also captivated the world's imagination with idealistic talk of social justice and utopian visions of a brave new world. As the tech boom transformed Silicon Valley into a gilded gated community, the economic, political, and cultural power of the tech titans remained largely unquestioned. But the alarming invasion of privacy, misinformation, "fake news," sexual harassment, racial discrimination, and economic disparity in recent times are raising profound and pressing questions about Silicon Valley (Berlin 2017, Cohen 2017, Greene 2018, Kleeman 2017, Lyons 2018, Spencer 2018).

Is technology the answer to humanity's problems or a threat to humanity as we know it? Who gets to define technology or determine its role in the world? Are social media and e-commerce enriching or impoverishing us? Will automation spread the pleasure of leisure to all or will robots take our jobs? How are AI and other emerging technologies redefining what and how it means to be human in the digital age? Are the tech titans promoting empathy, diversity, and inclusion or embracing a radical libertarian individualism hostile to women and other minorities? Is the tech industry optimizing for profit and disrupting for dominance at the expense of our humanity, environment, democracy, decency, and morality? What role can the Humanities & Arts play in these turbulent times?

All too often, the Humanities & Arts are reduced to "soft skills," "business ethics," and "product design," handmaids to the "hard," male dominated/masculinized STEM fields. Humanistic traditions of creativity and contemplation are appropriated to boost corporate productivity and profit while complex biocultural practices of wellbeing and happiness are extracted to enhance elite health and fitness. A delirious presentism spread by corporate media/communication networks, induces historical amnesia, leaving us awash in information without memory, outrage without perspective. The crisis is so serious that even tech companies eager to develop more disruptive futuristic technologies like biochips and AI-bots are now beginning to turn to the humanities/arts for answers and insights. Recent moves by NSF, Partnership for AI, Mozilla, and Google to integrate ethics into computer science curriculum and reward work in socially

conscious product design attest to this turn. In the face of such immense challenges, there is an urgent need to reinvent the humanities & arts, redefine their relationship to STEM, and revitalize their role in our lives. The Deep Humanities & Arts Initiative is conceived to fill this need.

Deep Humanities is not an updated or upgraded version of the old humanities but a critical posthumanism predicated on deep interdisciplinary and intercultural engagement (Botz-Bornstein 2012, Bannerji & Paranjape 2016, Jackson 2017). Deep Humanities radically restructures the foundational relationship between human, nature, and machine. Instead of a bounded human entity exalted to the center or the top, Deep Humanities envisions a more interconnected or dispersed being situated in proportion to and imbricated in "right relations" with the Other (animal, plant, machine). As part of this fundamental restructuring, Deep Humanities deconstructs the hegemonic Cartesian model of the human (as "above nature and other than machine") historically produced and universalized by European Enlightenment thought (Rees 2018), and reconstructs a more complex, integrated, symbiotic model by crossing disciplinary boundaries between the human sciences/the natural sciences/engineering, and drawing critical insights from other emerging paradigms and alternative traditions of thought.

Paralleling the notion of deep learning in computer science and deep ecology in environmental studies, Deep Humanities draws on deep structures of history, myth, and culture, networks of language, communication, and interpretation, patterns of affect, belief and bias, representations of cognition and consciousness, theories of ethics, art and aesthetics to develop multilevel, interdisciplinary, cross-cultural models of complex problems in order to reach higher levels of critical thinking, experiencing, understanding, and solving. At the most general level, Deep Humanities seeks to reconceptualize culture itself as a form of (artificial) intelligence that enhances and extends human capabilities. At its most profound, Deep Humanities aims to bring our cumulative accumulated knowledges about the practice of being human to engage the urgent issues of our times.

Key topics/issues the Deep Humanities & Arts Initiative proposes to tackle (in alphabetical order):

- Bias: social, cultural, and technological, including algorithmic bias; common sense and critical thinking in ML/AI.

- Culture: not as a stable set of practices to be manipulated or overcome, but as a dynamic site of struggle for meaning; as a form of "artificial intelligence" that enhances and extends human intelligence and capabilities.
- Design: ethical, affective, inclusive, and sustainable but not human centered; instead of placing human at the center/top, Deep Humanities proposes to place the human in proportion to and in *right relations* with the nonhuman (animal, plant, machine).
- Ethics: ethical ways of conceiving and connecting with the Other all its planetary diversity; integrating ethics into STEM/STEM education, business, politics, planning, and policy.
- Human/Non-human: scientific, philosophical, cultural and religious conceptions/models of the human and the non-human (including Nature and Machine) as well as the relationship between the two; deconstructing the Cartesian model and reconstructing a more complex, integrated understanding using insights from emerging paradigms and alternative traditions (cross-cultural medical humanities, deep ecology and environmental humanities).
- Identity: as difference/relation rather than essence; formation, representation; construction in virtual space, through social media; role of alterity/the Other.
- Imagination: uniquely human? biological, cognitive, affective, cultural, artistic and technological understandings and expressions of imagination, play and creativity.
- Language/communication: communication/language in human/non-human; human cognition/intelligence as well as AI and machine learning, including notions of context, common sense, and critical thinking.
- Reality: conceptions, representations, and models of reality (realism, reality, verisimilitude, virtual reality, fiction, fantasy); relationship between reality, representation, fact, fiction, and truth.
- Security/Privacy: issues around transparency, access, use/misuse of data; understandings of privacy/post-privacy; cyberwar/cybersecurity.
- Time/Space: phenomenological, philosophical, psychological, historical, technological, social, cultural, mythic conceptions, experiences, and uses of time/space (fast vs slow, right time, place vs space, dwelling, habitus, ecosystem).

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Dean Miller's Explanations

Two months ago, when we kicked off our first event here at SJSU to celebrate the 200th anniversary of the publication of Mary Shelley's *Frankenstein*, I engaged the cover art of a weekly magazine which pictured Mark Zuckerberg standing over the "monster" he has created—a "Frankenstein" Facebook that he no longer knows how to control—as a perfect metaphor for a technology that has gotten out of one's control.

That was before an Uber car killed a woman in Tempe, Arizona, where a highly unregulated political environment drew Uber to beta-test self-driving cars. That was before Tesla had additional problems with the car's autonomous mode. And it was before we found out that Cambridge Analytica hacked millions of Facebook users, prompting soul searching about privacy by Facebook's users, and a congressional inquiry into Facebook's practices. And this last week, the use of a public DNA site to help solve a terrifying cold case has reanimated these questions about privacy versus information. 200 years after Mary Shelley painted a complex portrait of how ethical

responsibility must be embedded within the act of innovation, we have had almost weekly examples that underscore a main theme in her text.

This day exploring "[Deep Humanities](#)" is premised on the idea that the humanities and the arts have a powerful and increasingly important role to play in the world of STEM.

Our "[FrankenSTEM](#)" poster playfully weaves these questions back into a novelist's portrait that morphs into the horror genre (then morphs into camp); Shelley's novel began as a reflection on the power, and the challenges, of technology. As such, it speaks to the power of the arts to imagine new possibilities and worlds, as well as new terrors—whether Mary Shelley's portrait of Dr. Frankenstein's creation, or the second season of *Westworld*, which imaginatively engages much of what the two panels today will interrogate: artificial intelligence, algorithmic bias, and ways that the practices of the humanities can engage, question, and ideally improve the technology that surrounds us in the Silicon Valley. Our premise within "Deep Humanities" is that the humanities provide us a critical framework to evaluate our decision making practices, and ideally help us make better, more inclusive, and more ethical decisions around increasingly complex technologies that do not just fill our lives; they more and more are framing them.

Our day of panels and student presentations take up these issues, which seem more urgent than ever before, and more relevant than ever before here in the Silicon Valley. The College of Humanities and the Arts here at San José State is interrogating these issues through the liberal arts and the performing arts.

Position Papers from Spring 2018 One-Day Symposium

- [Andrew Blanton](#) (Digital Media Arts, SJSU – [Position Paper](#))
- Dr. Winncy Du (Director of the Robotics, Sensor, and Machine Intelligence Laboratory, SJSU – [Position Paper](#))
- Neeti Mehta (VP, Brand Strategy & Initiatives, Automation Anywhere – [Position Paper](#))
- [Dr. Janet Stemwedel](#) (Philosophy, SJSU – [Position Paper](#))
- Dr. Daniel Susser (Philosophy, SJSU – [Position Paper](#))
- [Rhonda Holberton](#) (Digital Media Arts, SJSU — **Position Paper**)

- Dr. Claire Komives (Chemical Eng/Biomedical Ethics, SJSU – Position Paper)
- Manjula Menon, (Fiction author; Physics, Electrical Engineering, Finance — Position Paper)
- Dr. Anand Vaidya (Philosophy, SJSU – Position Paper)