

Thinking through human-honeybee relations, honey production, and large-scale AI systems: a paradigm shift for AI training and development?

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What do honeybee-human relationships have in common with human-AI relationships? Could honey, bees and honey production act as a lens through which to redefine the way AI systems are conceptualised, designed and used? On a more granular level, can we think through problems such as massive energy use for training and use, dependency on large datasets, imperfect systems of data annotation and inherent bias in AI systems by examining honey production, bees, beekeepers and the socio-ecological systems in which they flourish?

CCS Concepts: • **Computing methodologies** → **Artificial intelligence**; • **Human-centered computing** → **Human computer interaction (HCI)**; • **Social and professional topics** → **Socio-technical systems**.

KEYWORDS: ethics, responsible AI, bioengineering, sustainable AI, training, foundation models, generative AI, datasets, machine learning, responsible artificial intelligence, human-centric artificial intelligence, algorithmic bias,

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1 PROJECT OUTLINE

Drawing on an ethnographic examination of honeybees, their human keepers, and honey production in hobby, sustainable, and commercial settings, this project takes a bioengineering approach to AI systems and their development. Rooted in qualitative methods, existing scientific research, and arts-based installations, it begins by mapping out the interdependencies of honey bees and humans, tracing the bees search and criteria for high quality sources of nectar and the collection of pollen, outlining practices and processes of honey making, its storage and use in the hive, and ends up at the human harvesting, regulation and consumption of the 'nectar of the gods'.

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Deliverables from this research project will focus on establishing a set of core principles for AI engineers and developers that relate to the five ethical principles for human-centred AI proposed in this workshop, offer a counter-narrative to AGI, tech-centric futures that focus on slow, intentional and longitudinal relations rather than rapid and unsustainable growth, extraction and expansion, and is an attempt to create a sense of social and environmental responsibility anchored in clear criteria that can be used in decision-making at the dataset creation and foundational model training stages (but possibly even at the fine-tuning stage).

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