AI INSIGHTS · SESSION 1 OF 6 · MEMORY SHEET

When thinking becomes cheap

From five talks by Prof Prathosh A.P., IISc Bengaluru. His views, in his own capacity.

1 Muscle, then mind

- **Industrial revolution:** machines did muscle work far more cheaply; value moved from strong workers to factory owners.
- **Now:** AI does much thinking work well and cheaply; value moves to those who build and own the AI.
- **Physical labour:** work done with the body's strength.
- **Value:** what people pay for, because it is useful and not easy to get.

2 Thinking was scarce

- **Knowledge economy:** most jobs paid for knowing and thinking.
- **Information asymmetry:** one side knows what the other does not, so it can charge for it (lawyer, tutor, travel agent).
- **Commoditised:** so plentiful and cheap that it no longer sets people apart.
- **Lifting 100 kg:** now a sport, not a job; he says intelligence is heading the same way.
- **Different this time:** after machines there was thinking work to move up to; after AI there is no obvious next level.

3 Why now

- **Algorithms:** known since the 1960s and 1970s.
- **Data:** internet scale, from about 2017 to 2018.
- **Compute:** more transistors, GPUs (chips that do many sums at once).
- **Emergence:** new abilities appear at huge scale, though nobody built them in.
- **His PhD then:** thousands of examples; one lakh was large. Chat models now: trillions.
- **Scalable:** a person has a limit; a crane, like AI, does more when given more.
- **Known and unknown:** we know the engineering, not why it works; it has not levelled off.

4 Checkable work first

- **Reinforcement learning:** a model is rewarded when it gets something right.
- **Verifiable:** can be marked right or wrong, no room for opinion: a maths step, code passing a test case, a chess move.
- **His rule:** anything systematic, logical and verifiable, machines will do better.
- **Not a safe zone:** judgement-based work comes later, not never; AI already writes poems and music.

5 The makers first

- **Bhasmasura:** the power reaches its makers first; software is hit first, then other knowledge work.
- **Any intellect job:** writers, translators, lawyers, teachers, designers, content creators.
- **Juniors first:** models do most junior tasks easily.
- **Physical work:** robots were the easy part; intelligence was the hard part.

6 A realist

- **Two schools he rejects:** hype ("nothing will change") and doom ("it is all gone").
- **What to do:** know the latest tools, be aware of the risks, adapt, use the tools.
- **Darwin's fittest:** the most able to adapt, not the strongest or fastest.
- **Two human strengths:** thinking about the future; surviving.
- **The cost:** the generation living through the change is bound to suffer.
- **His line:** the mantra to survive is to adapt.

Say it without looking

1. Why did value move to factory owners after machines came?
2. Give one job paid through information asymmetry, and say what AI changes for it.
3. Name the three ingredients that met at scale.
4. Why are maths and code hit before judging a poem?
5. What four things does a realist do?

Videos: The End of Jobs, MKR Unplugged (youtu.be/alUPAd1tChM); SciAstra interview (youtu.be/sqYBn2t05eM); Pedagogy with AI (youtu.be/jGzxkUXhwvY); After Demo Day (youtu.be/eyQ4sbG6EpY)