

Agentic AI Solutions in Urban Healthcare

Swakkhar Shatabda
Professor, BRAC University

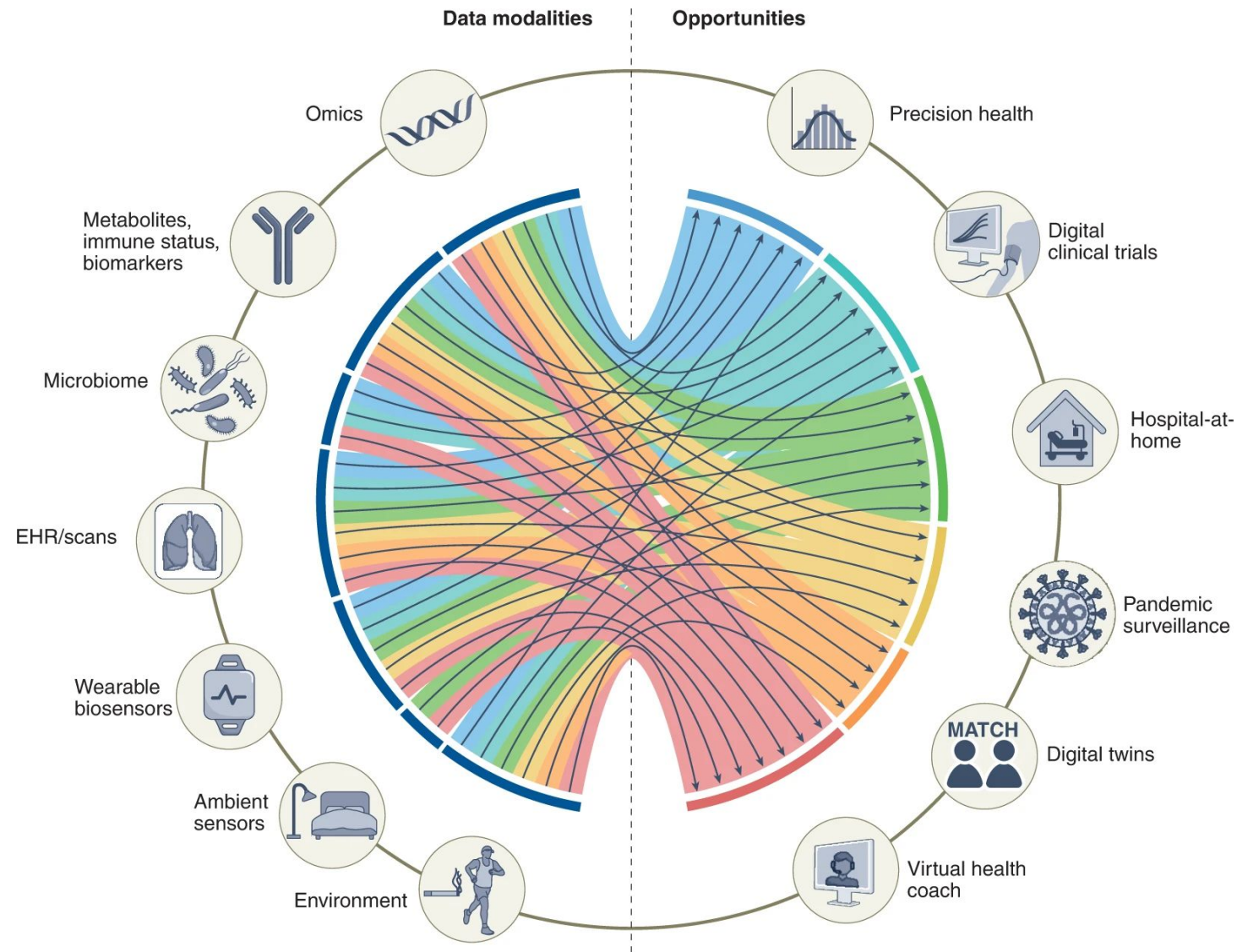


Can AI solve health care problems?



- personalized medicine
- digital clinical trials
- remote monitoring and care
- pandemic surveillance
- digital twin technology
- virtual health assistants.

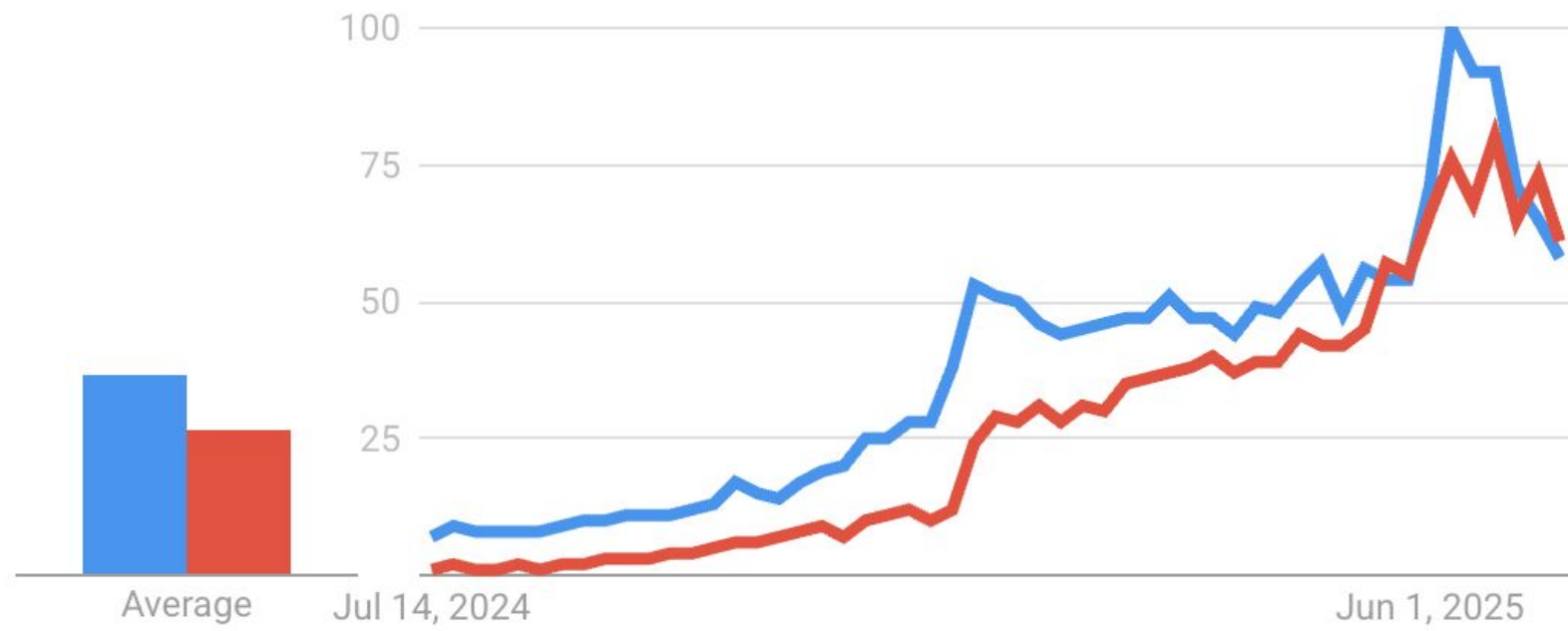
Multimodal data and applications



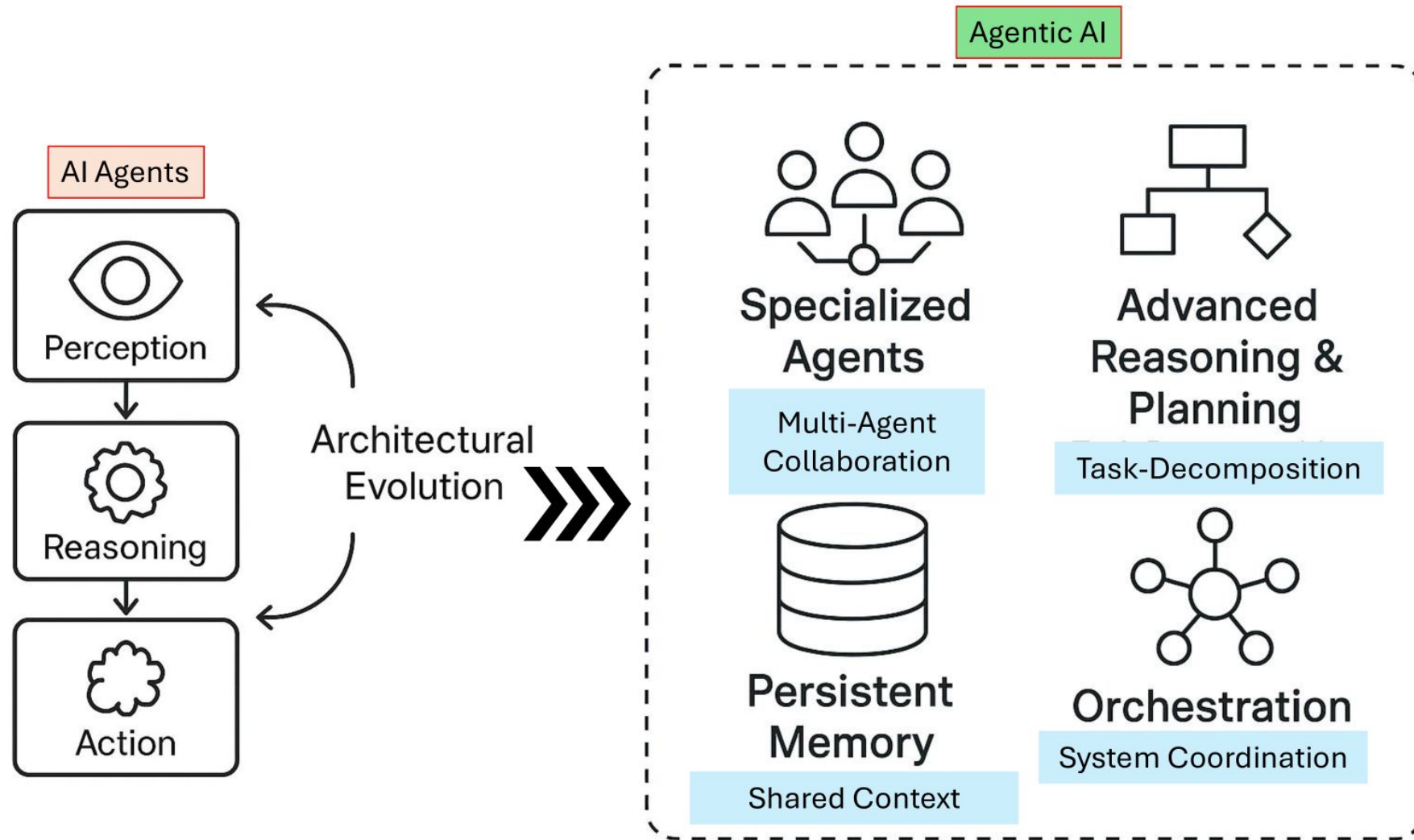
Interest over time

Google Trends

● ai agents ● agentic ai



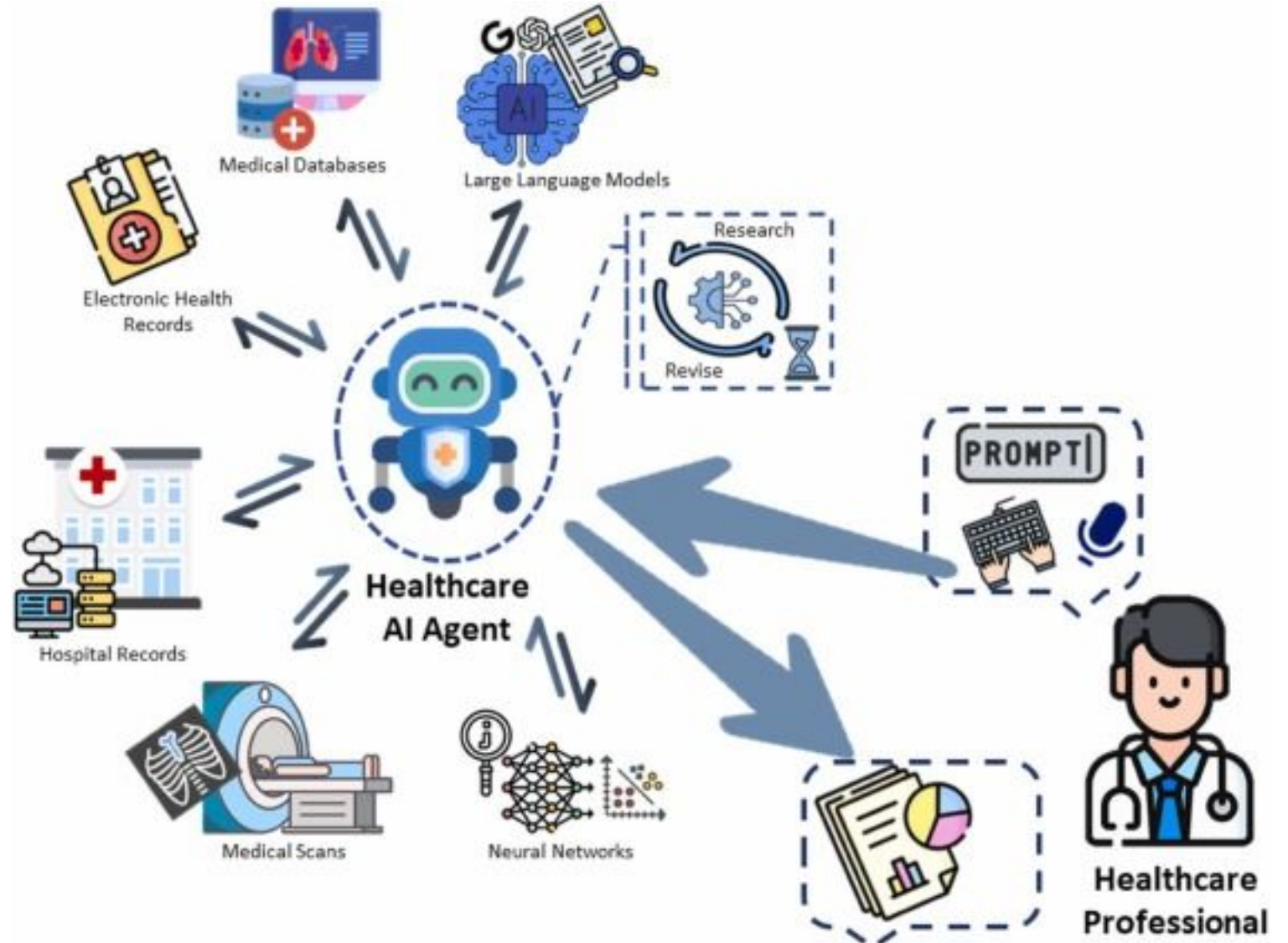
Trends



Architectural Shift

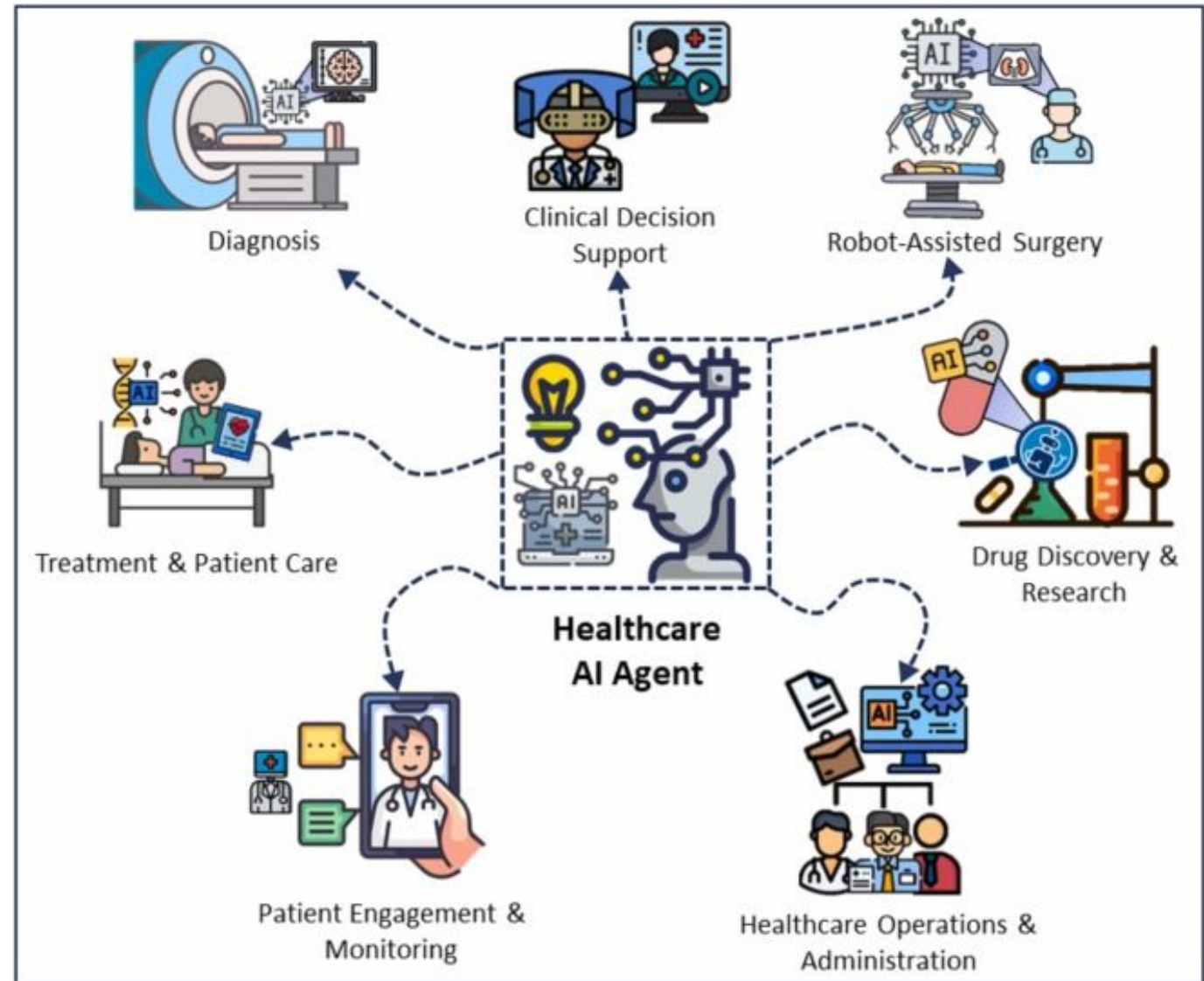
- Integrate pretrained ML/DL encoders
- Multimodal data
- Central LLM for reasoning and decision-making
 - Autonomy
 - Adaptability
 - Scalability
 - Probabilistic Decision Making

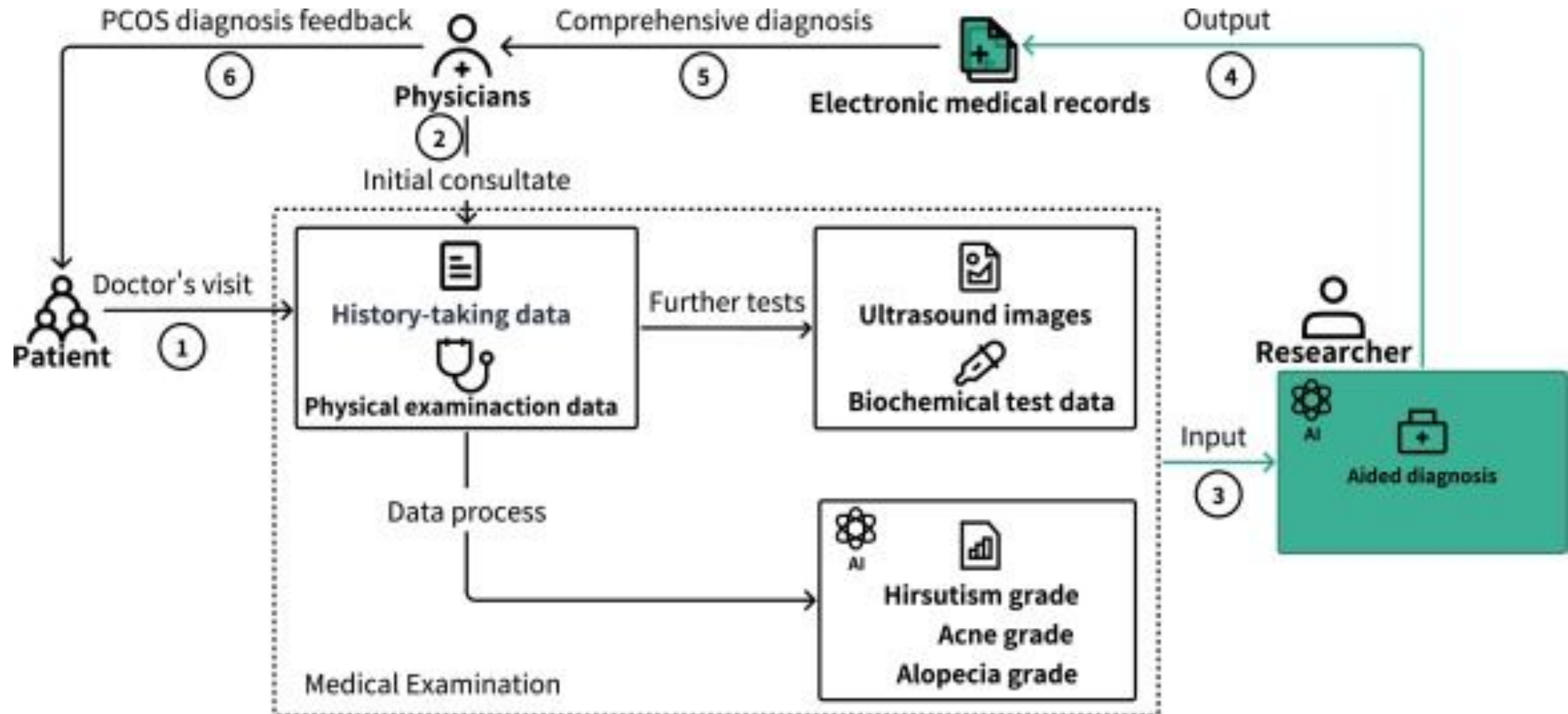
Agentic AI



- Diagnosis
- Clinical Decision Support
- Treatment and Patient Care
- Patient Engagement and Monitoring
- Robot Assisted Surgery
- Drug Discovery and Research
- Healthcare Operations and Management
- Healthcare Education

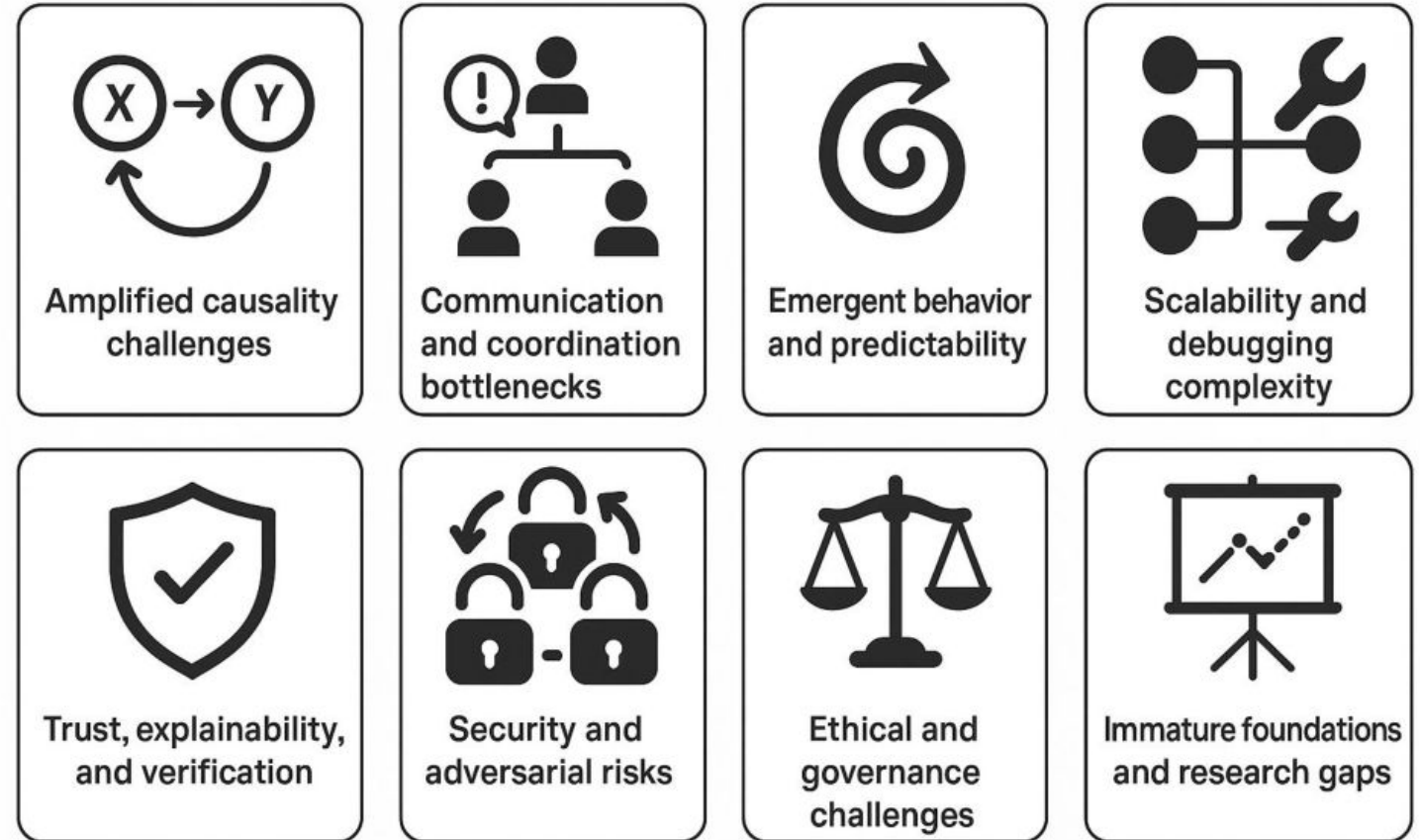
Core Functions





Case Study: PCOS diagnosis and ...

Li, M., He, Z., Shi, L., Lin, M., Li, M., Cheng, Y., ... & Nie, L. (2025). Intelligent detection for Polycystic Ovary Syndrome (PCOS): Taxonomy, datasets and detection tools. Computational and Structural Biotechnology Journal.



Challenges