Shiwali Mohan

Seattle, WA | shiwali.mohan@gmail.com | 734.757.0354 | Permanent Resident
Webpages | Curriculum Vitae | Research Statement | Google Scholar

EDUCATION

PHD, ARTIFICIAL INTELLIGENCE
University of Michigan
2015 | Ann Arbor, MI
Thesis: From Verbs to Tasks - An Integrated Account of Learning Tasks from Situated Interactive Instruction

MASTER OF SCIENCE
University of Michigan
2009 | Ann Arbor, MI

BACHELOR OF ENGINEERING
University of Delhi
2007 | New Delhi, India

SKILLS

TOOLS
Programming: Python, Java
Generative AI: LangChain, HuggingFace
ML: TensorFlow
Statistics: R, Pandas, NumPy, SciPy
Reasoning frameworks: PDDL, Soar

COMMUNICATION
Scientific articles: AI, HCI, HRI, Cognitive Science
Patent applications
Research/funding proposals

SERVICE

ADVISING
Preeti Ramaraj, UM
Will Hancock, Northwestern
Vijay Marupudi, Georgia Tech
Poorvesh Dongre, Virginia Tech
Shreya Rajagopal, UM

COMMUNITY
Chair: ACS, AAAI-DC
SPC/PC: AAAI, IJCAI, ACM: IUI, HRI, UpiComp, ICRA, IEEE RO-MAN
Reviewer: ACM TiiS, ACM TIST, ACM HRI, Autonomous Robots, UKRI

MEDIA

PRESS
IEEE Spectrum, 2021. [link]
Outside Magazine, 2017. [link]

SOCIAL
in: shiwalimohan
: shiwali_m

EMPLOYMENT

SRI | Future Concepts (formerly Xerox PARC)

Principal Computer Scientist, PARC/SRI — 2022 – Current | Palo Alto, CA
Senior Member of Research Staff, PARC — 2019 – 2022 | Palo Alto, CA
Member of Research Staff, PARC — 2015 - 2019 | Palo Alto, CA

- Technical and business leader in fundamental and applied AI science
- Raised, managed, and executed on grants from government and industry worth over $10M USD
- Manages interdisciplinary, multi-organization teams of AI & ML scientists, HCI & UX researchers, experts (clinicians, psychologists, economists), and academics
- Over 50 publications in AI, ML, & HCI and 10 patents (awarded/pending)
- Invited speaker at AI, HCI, & robotics conferences and universities
  Analogical Minds | Michigan AI Rising Stars | Talking Robotics | Tech & Society @ UCB | Robotics Colloquium @ UW | MLUX | ACM IUI 2021

RESEARCH

FUNDAMENTAL AI
Expert in agent architectures, sequential decision making, and world models. Adept at building systems with generative AI, ML, and knowledge representation & reasoning

Resilient Autonomy in Open, Evolving Worlds | DARPA SAIL-ON
AIJ 2024 | AAMAS 2023 | ICAPS 2023 | ICAPS 2021

- Principal investigator for building intelligent agents that can autonomously adapt to sudden, unexpected changes in their operational environment
- Invented model-space adaptation in AI planning agents to learn 10x faster than deep reinforcement learning (patent WIP)
- Led the only team to successfully deploy a research prototype to the client's operational environment

Teachable Autonomy | DARPA GAILA, AFOSR Open
US Patent 2023 + 4 pending | ICAPS 2024 | IEEE RO-MAN 2021 | ACS 2020 | AAAI 2014 | ACS 2014

- Principal investigator for building intelligent agents that can learn new concepts and tasks from natural human teaching | LLM+Planning demo
- Invented AI architectures for learning from teaching dialog in physical machines.
- Won the AAAI 2018 Blue Sky Award for a framework for integrating statistical learning and knowledge-rich inference in a single architecture; given to work that can initiate significant new research directions
- Helped launch a new AI research subfield on Interactive Task Learning

AI APPLICATIONS
Expert in Human-Centered AI/ML and Human-Machine Interaction. Adept at leveraging insights from psychology, economics, education to build AI systems.

Conversational Agents for Patient-centric Healthcare | Seeking funding from NIH
arXiv:2402.00234 [cs.HC]

- Leading generative AI agents research for patients' sensemaking of their reports
- Collaborating with UCSF clinicians for problem discovery and need identification

Coaching Agents for Healthy Behaviors | NSF/NIH SCH
ACM TiiS 2021 | ACM TiiS 2020 | JMIR 2018 | AAAI 2017 | JMIR 2017

- Envisioned and implemented intelligent agents for supporting people in developing healthy behaviors; in collaboration with Kaiser Permanente
- Deployed the only known AI system to have adaptive behavior over long timespans (6-8 weeks) in ecological settings (real-world studies)
- Innovated an iterative design process for collaborative AI systems

Planning & Recommendation for Sustainable Transportation | ARPA-E TransNet
JAIR 2019 | AIES 2019 | US Patent 2023 | US Patent 2021

- Envisioned and implemented a multi-modal route planning system for expected energy minimization in transportation network for Los Angeles
- Built rational choice models with deep learning and integrated them in the system to influence people's choice