

Research Interests

I am interested in intelligent systems that operate in large, nondeterministic, nonstationary or only partially known domains. My research focuses on techniques from artificial intelligence (AI) for decision making that enable single situated agents (such as robots or decision-support systems) and teams of agents to act intelligently in their environments and exhibit goal-directed behavior in real-time, even if they have only incomplete knowledge of their environments, imperfect abilities to manipulate them, limited or noisy perception or insufficient reasoning speed.

Professional Experience and Education

2003-now	Associate and then Full Professor, Computer Science, University of Southern California (USC)
2010-2012	Program Director, National Science Foundation (as university rotator)
1998-2003	Assistant Professor, College of Computing, Georgia Institute of Technology
1997	Ph.D. in Computer Science, Carnegie Mellon University
1993	M.S. in Computer Science, Carnegie Mellon University
1992	Diplom in Computer Science, University of Hamburg (overall grade: very good)
1991	M.S. in Computer Science, University of California at Berkeley
1991	Diplom in Business Administration, University of Hamburg (overall grade: very good)

Awards and Other Recognition

2021	Association for Computing Machinery (ACM): Elected fellow “for contributions to artificial intelligence, including heuristic search and multi-agent coordination”
2020	Institute of Electrical and Electronics Engineers (IEEE): Elected fellow “for contributions to search algorithms and multi-agent coordination”
2020	Intern. Conference on Automated Planning and Scheduling: Outstanding student paper award
2020	Symposium on Combinatorial Search: Best paper honorable mention
2020	NeurIPS Flatland Competition, a railway scheduling competition: Advisor of the winning team (my Ph.D. students Jiaoyang Li, Yi Zheng and Shao-Hung Chan plus Zhe Chen from Monash University)
2020	Symposium on Educational Advances in AI: One project selected as “model AI assignment”
2020	Israel Institute of Technology (Technion): Offered the Lady Davis visiting professorship in 2020/2021 (could not be started due to COVID-19 travel restrictions to Israel)
2019	AAAI Conference on AI: Classic paper (= “test of time”) honorable mention
2019	USC Stevens Center for Innovation: Technology commercialization award
2018-2021	Amazon: Four Amazon research awards or equivalent (monetary research gifts without obligations)
2017	American Association for the Advancement of Science (AAAS): Elected fellow “for significant contributions to planning, decision making and coordination of robots and other situated agents”
2017	IEEE Computer Society: Computer science and engineering undergraduate teaching award “for his commitment to engaging students through project-based learning and mentoring that cultivates a passion for artificial intelligence”
2016	Intern. Conference on Automated Planning and Scheduling: Outstanding paper award (robotics track)
2015	USC Viterbi School of Engineering: Dean’s award for innovation in teaching and education
2013	Association for the Advancement of Artificial Intelligence (AAAI): Elected fellow “for significant contributions to planning, decision making and coordination of robots and other situated agents”
2013	International Collegiate Programming Contest: Coach of the USC student team that placed highly among all North American teams at the world finals (directly behind CMU and tied with MIT and Stanford)
2013-2019	Association for Computing Machinery: Distinguished speaker (two terms)
2011-2012	National Science Foundation: Two director’s awards for collaborative integration
2010	Symposium on Educational Advances in AI: Three projects selected as “model AI assignments”
2009	Intern. Conference on Agents and Multi-Agent Systems: Nomination for best student paper award
2009	USC: Mellon award for faculty mentoring undergraduate students
2004	Georgia Institute of Technology: SAIC advisement award

2003	Georgia Institute of Technology: Outstanding junior faculty research award
2001	Intern. Business Machines Corporation (IBM): Faculty partnership award (monetary research gift without obligations)
2000	National Science Foundation: Career award
1999	Georgia Institute of Technology: Raytheon faculty research award
1990	University of California, Berkeley: Tong Leong Lim pre-doctoral prize
1989	Fulbright Commission: Fulbright fellowship

Selected Leadership and Service Activities

- conference co-chair of the Intern. Conference on Agents and Multi-Agent Systems 2018, the Symposium on Educational Advances in AI 2016 and 2017, the Symposium on Combinatorial Search 2009 and the Intern. Conference on Automated Planning and Scheduling 2004
- program co-chair of the Intern. Conference on Automated Planning and Scheduling 2018, the AAAI Conference on AI 2015 and the Intern. Conference on Agents and Multi-Agent Systems 2005; associate program co-chair of the Intern. Joint Conference on AI 2021
- evaluator of the Global Station for Big Data and Cybersecurity of Hokkaido University (2020), the Research School of Computer Science of the Australian National University (2016) and the Optimization Group of Australia's Information and Communications Technology Research Centre of Excellence NICTA (2012 and 2014)
- advisory board member of the Advanced Intelligent Systems journal (since 2019), the Journal of AI Research (2008-2016) and AI Magazine (2018-2020)
- associate editor of the Autonomous Agents and Multi-Agent Systems journal (since 2010), the Advances in Complex Systems journal (since 2007), the Artificial Intelligence Journal (2014-2020) and the Journal of AI Research (2005-2007)
- elected chair of the Special Interest Group on AI of the Association for Computing Machinery (2016-2019), chair of the AAAI conference committee (since 2020) and president of the organization that runs the Symposium on Combinatorial Search (since 2019)
- elected member of the AAAS steering group of the Information, Computing and Communication Section (since 2020), the board of directors of the Intern. Foundation for Autonomous Agents and Multi-Agent Systems (since 2020), the AAAI executive council (2013-2016 and ex officio since 2020) and the executive council of the Intern. Conference on Automated Planning and Scheduling (2004-2010); member of the council of the Computing Community Consortium of the Computing Research Association (since 2021), the steering committee of the AAAI/ACM Artificial Intelligence, Ethics and Society conference (since 2018), the executive committee of the IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems (since 2017) and the governing council of the Symposium on Combinatorial Search (2010-2015 and since 2019)

Statistics

- sabbatical and visiting positions at Australian National University/NICTA, California Institute of Technology, Carnegie Mellon University, Monash University, NASA Ames Research Center and University of California at Berkeley
- external dissertation committee member of 17 students from Australia, Europe and North America
- 10 graduated Ph.D. students (3 of them became professors at US and Canadian universities)
- Undergraduate, Master's and Ph.D. students have won many awards – one Ph.D. student was selected by IEEE Intelligent Systems as one of the "AI's 10 to Watch" ("10 young stars in the field of AI")
- 250+ publications with 15,000+ citations and an h-index of 62 (according to Google Scholar), including 21 long papers at the International Joint Conference on AI and 27 long papers at the AAAI Conference on AI but also papers at conferences on planning (ICAPS), multi-agent systems (AAMAS), machine learning (ICML, NeurIPS, COLT), reasoning with uncertainty (UAI), constraint programming (CP, CPAIOR), knowledge representation and reasoning (KR), computer science theory (SODA), robotics (ICRA, IROS, RSS) and other topics
- Cited 7 times in 4 chapters of the textbook "AI: A Modern Approach" (4th edition)
- 120 invited talks and 22 discussion panels at conferences, universities and other organizations
- judge of 23 contests and awards
- 45 student mentoring activities at conferences, 18 tutorials and 9 talks at summer schools
- 42 grants, contracts and gifts

Full CV available at <http://idm-lab.org/cv/usc.pdf>.

