William Macke

Ph.D. Student · Research Assistant

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Education

University of Texas at Austin
Ph.D. in Computer Science
Austin, TX
2019–Present
· Advisor: Peter Stone
· GPA: 4.0

University of Tulsa
B.S. in Computer Science, Mathematics, Computer Simulation and Gaming
Tulsa, OK
2015–2019
· Summa Cum Laude
· GPA: 4.0

Research Interests

◇ Ad Hoc Teamwork
◇ Multiagent Reinforcement Learning

Publications

◇ Nathaniel Beckemeyer, **William Macke**, and Sandip Sen, "Stable Configurations with (Meta)Punishing Agents", *AAMAS workshop on Multi-Agent Based Simulations (MABS), 2017*

◇ Jon Bolin, Chad Crawford, **William Macke**, Sam Beckman and Sandip Sen, "Gesture Based Control of Autonomous UAVs", *AAMAS extended abstract, 2017*

◇ Zhuoshu Li, Kelsey Lieberman[*], **William Macke**[*] Sofia Carrillo, Chien-Ju Ho, Jason Wellen, and Sanmay Das, "Incorporating compatible pairs in kidney exchange: A dynamic weighted matching model.", *ACM Conference on Economics and Computation, 2019*

◇ Reuth Mirsky, **William Macke**, Andy Wang, Harel Yedidsion, and Peter Stone., "Communication in Ad Hoc Teamwork", *AAAI Workshop on Planning and Intent Recognition (PAIR), 2020*

◇ Reuth Mirsky, **William Macke**, Andy Wang, Harel Yedidsion, and Peter Stone., "A penny for your thoughts: The value of communication in ad hoc teamwork.", *IJCAI, 2020*

◇ Garret Bingham[*], **William Macke**[*], Risto Miikkulainen, "Evolutionary Optimization of Deep LearningActivation Functions", *GECCO, 2020*

◇ **William Macke**, Reuth Mirsky and Peter Stone, "Query Content in Sequential One-shot Multi-Agent Limited Inquiries when Communicating in Ad Hoc Teamwork", *ICAPS Workshop on Distributed Multi-Agent Planning (DMAP), 2020*

Research Experience

University of Texas at Austin
Graduate Researcher
Austin, TX
August 2019–Present
· Performing research toward the completion of a Ph.D. in the Learning Agents Research Group at UT Austin, under the supervision of my advisor, Professor Peter Stone.

Washington Univeristy in Saint Louis
NSF REU Researcher
Saint Louis, MO
Summer 2018
· Performed research and development of online matching algorithms for kidney exchange under the supervision of professors Sanmay Das and Chien-Ju Ho

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[*]Equal contribution

University of Tulsa

Tulsa, OK

TULSA UNDERGRADUATE RESEARCH CHALLENGE SCHOLAR

Summer 2016/2017

· Performed research on several projects involving multiagent systems under the supervision of Professor Sandip Sen

Selected Software Projects

[HTTPS://GITHUB.COM/WILLIAMMACKE/KMEANS](https://github.com/williammacke/KMeans) (kmeans)

· Project demonstrates KMeans Clustering Algorithm graphically given 2 dimensional data as input

Honors & Awards

2015   **Awardee**, University of Tulsa Presidential Scholarship (covering all tuition and living expenses)

2017   **Awardee**, MABS Most Visionary Paper Award

Skills

Languages	C99 and C++17, Python2 and Python3, Java, R, Haskell, Bash, LaTeX
Libraries and Tools	TensorFlow, NumPy, SciPy, Pandas, SciKit-Learn, OpenCV, Eigen
Misc. Engineering	Git, CMake, GNU Make