FATEMEH ZAHRA SABERIFAR

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EDUCATION

PhD   Amirkabir University of Technology, Computer Science, 2018
MS   Amirkabir University of Technology, Computer Science, 2010
BS   Amirkabir University of Technology, Computer Science, 2008

RESEARCH EXPERIENCE

Department of Computer Science and Engineering,
University of South Carolina, Columbia, SC, USA.
As an exchange visitor student, under advising Prof. Jason M.O'Kane, 2015-2016

PUBLICATIONS

Journal Papers

[1] Negar Abbasi, **Fatemeh Zahra Saberifar**, Unmanned Vehicles Path Planning in Coverage Problem of varying height environments with energy Constraints, Computing Science Journal, vol: 7, no: 4, 2023.
[2] Dylan A. Shell, Jason M. O'Kane, **Fatemeh Zahra Saberifar**, On the design of minimal robots that can solve planning problems, IEEE Transactions on Automation Science and Engineering, vol. 18, no. 3, pp. 876–887, July 2021.
[3] **Saberifar, F. Z.**, Ghasemlou, S., Shell, D. A., and O'Kane, J. M. Toward language-theoretic foundation for planning and filtering. International Journal of Robotics Research, Vol 38, Issue 2-3, 2019.
[4] **Saberifar, F. Z.**, Mohades, A., Razzazi, M., and O'Kane, J. M. Improper filter reduction. Journal of *Algorithms and computation*, 50(1):69–99, 2018.
[5] **Saberifar, F. Z.**, Mohades, A., Razzazi, M., and O'Kane, J. M. Combinatorial filter reduction: Special cases, approximation, and fixed-parameter tractability. Journal of Computer and System Sciences, 85:74–92, May 2017.

Conference Papers

[1] **Saberifar, F. Z.**, O'Kane, J. M., and Shell, D. Charting the trade-off between design complexity and plan execution under probabilistic actions. In 2022 International Conference on Robotics and Automation (ICRA), pp. 135-141. IEEE, 2022.

[2] **Saberifar, F. Z.**, O'Kane, J. M., and Shell, D. The hardness of minimizing design cost subject to planning problems. In Proc. Workshop on the Algorithmic Foundations of Robotics, Merida, Mexico, 2018.

[3] **Saberifar, F.Z.**, O'Kane, J. M., and Shell, D. A. Inconsequential improprieties: Filter reduction in probabilistic worlds. In Proc. IEEE/RSJ International Conference on Intelligent Robots and Systems, Vancouver, Canada, 2017.

[4] Ghasemlou, S., **Saberifar, F. Z.**, O'Kane, J. M., and Shell, D. Beyond the planning potpourri: reasoning about label transformations on procrustean graphs. In Proc. Workshop on the Algorithmic Foundations of Robotics, San Francisco, USA, 2016.

[5] **Saberifar, F. Z.**, Ghasemlou, S., O'Kane, J. M., and Shell, D. Set-labelled filter and sensor transformations. In Proc. Robotics: Science and Systems, Michigan, USA, 2016.

[6] M. Davoodi, B. Kouhestani, **F. Saberifar**, A. Mohades, A Visibility Based Pursuit-Evasion Problem with Teleport Points, First CSUT Conference on Computer, Communication, Information Technology, Tabriz, November 16 – 17, pp. 1159-1163, 2011.

M.S. THESIS AND PH.D. DISSERTATION

[PhD] Fatemeh Zahra Saberifar. *Automatic Reduction and Construction of Combinatorial Filters in Information Spaces*. Ph.D. thesis, in Persian. Amirkabir University of Technology, 2018.

[MS] Fatemeh Zahra Saberifar. *Motion Planning of a Group of Robots by Computational Geometry Algorithms*. Master's thesis, in Persian. Amirkabir University of Technology, 2010.

TEACHING EXPERIENCE

Robotics at Tarbiat Modares University, 2 times
Computational Geometry at Tarbiat Modares University, 5 times
Computational Optimization at Tarbiat Modares University, 4 times
Advanced Algorithms, at Tarbiat Modares University, 5 times
Research Methods, at Tarbiat Modares University, 3 times
Management Information Systems at Amirkabir University of Technology
Computer Programming at Amirkabir University of Technology
C programming at Amirkabir University of Technology, 3 times
Software engineering at University of Al_Zahra
Principles of Computer Systems' management, Payame Nour University (Lavasanat branch)
Program Languages Design and Implementation, Payame Nour University (Lavasanat branch)
Software engineering, Payame Nour University (Garmdareh branch)
Artificial Intelligence, Payame Nour University (Garmdareh branch)
Algorithm Design, Payame Nour University (Garmdareh branch)
Specialized English Texts at Payame Nour University (Garmdareh branch)
Object Oriented Analysis and Design at Payame Nour University (Garmdareh branch)
Information Storage and Recovery at Payame Nour University (Garmdareh branch)

Program Languages Design and Implementation at Payame Nour University (Garmdareh branch)
Computer Programming at University of Al_e_Taha

PRESENTATIONS AND INVITED LECTURES

11th Winter School on Computational Geometry, "Automatic Reduction of Computational Geometry," Preliminary Lectures, Feb 17, 2019.

RESEARCH SUPERVISION

Master of Science students (graduated)
   Negar Abbasi, 2020-2022.
   Ali Asghari, 2020-2022.
   Mohadeseh Khandani 2021-2023
   Shirin Shoqli 2021-2023
Master of Science students (current)
   Mohammadhossein Jafari 2022-present
   Ida Moieni Afshar 2022-present
   Yekta Sahraie 2022-present
   Fatemeh Dinani 2023- present
   Yasin Rahmani 2023- present
   Sogol Tehranipour 2023- present

COMMUNITY SERVICE

Rewies
IEEE International Conference on Robotics and Automation
IEEE/RSJ International Conference on Intelligent Robots and Systems