

Dr. Abdullah Alsheddy

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Associate Professor,
Computer and Information Sciences College (CCIS),
Al Imam Mohammad Ibn Saud Islamic University (IMSIU),
Riyadh, Saudi Arabia.



SUMMARY	My main interest is in the application of Artificial Intelligence techniques (e.g. searching, constraint programming and machine learning) in designing clever decision-support systems for domains such as resource management, logistics and business.
SPECIALTIES	Decision support, optimization, planning, scheduling, heuristics and meta-heuristics, evolutionary computation, constraint programming.
EDUCATION	<ul style="list-style-type: none">♣ PhD Computer Science, University of Essex, UK (2007-2011).♣ MSc Computer Science, University of Essex, UK (2006-2007).♣ BSc Computer Science, King Saud University, Saudi Arabia (1998-2002)
EMPLOYMENT	<ul style="list-style-type: none">◆ Currently, Vice Dean for Higher Education and Scientific Research, College of Computer and Information Sciences, IMSIU.◆ Currently, Head of Research Unit, College of Computer and Information Sciences, IMSIU.◆ Vice Dean, College of Computing and Informatics, Saudi Electronic University (Nov 2013 - Jan 2016).◆ Vice Dean for Development & Quality, Deanship of Female Education Centre, IMSIU (May 2012 - Present).◆ Associate Professor, CCIS, IMSIU (Oct 2018- until now).◆ Assistant Professor, CCIS, IMSIU (Nov 2011- Oct 2018).◆ (Part-time) Research Officer at University of Essex, UK (May 2010 - March 2011). Project title: “<i>Real-time Workforce Scheduling System</i>”, in collaboration with British Telecommunication Plc◆ Instructor, CCIS, IMSIU, Riyadh, KSA. (2004-2005)◆ System Administrator, Banking Technology Dept., Saudi Arabia Monetary Agency, Riyadh, Saudi Arabia. (2002-2004)
AWARDS	The University of Essex’s R.A. Brooker Prize for Best Student in the

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	MSc Computer Science, University of Essex, 2007.
PUBLICATIONS	I have 15+ publications to date, including book chapters, journal papers and conference papers.
RESEARCH PROJECTS	<ul style="list-style-type: none">♣ A Uni-Bus Management & Scheduling system to help the IMSIU to manage its 400+ fleet of buses that are used in the free-transportation services provided to the IMSIU's girl students.♣ Multi-objectivization, where multi-objective optimization techniques are used to solve single-objective optimization problems. (In Progress)♣ Flexible Management in Workforce Scheduling, with the aim to let the computational intelligence techniques look at employees' interests, in addition to the employer's interest.♣ Extending the Guided Local Search algorithm to handle multi-objective optimization problems.♣ Computational intelligence tools for financial forecasting problems. (2012)
PROFESSIONAL ACTIVITIES	Reviewer in the following international journals: <ul style="list-style-type: none">◆ IEEE Transactions on Evolutionary Computation (IEEE-TEVC)◆ Journal of Mathematical Modeling and Algorithms (JMAM)
TRAINING	<ul style="list-style-type: none">♣ I have attended several training courses including:<ul style="list-style-type: none">○ Project risk management.○ Quality in higher education○ Academic leadership.♣ As a trainer, I gave a course on "Computer applications in writing and reviewing scientific research" to academic staff.

List of Publications:

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~ PhD Thesis:

Empowerment Scheduling: A Multi-objective Optimization Approach Using Guided Local Search. PhD Thesis, University of Essex, 2011.

~ Book Chapters:

1. Alsheddy, A. Voudouris, C., Tsang, E., Alhindi, A. 2017. Guided Local Search, Handbook of Heuristics, eds. Marti, R. Pardalos, P., and Resende, M, Springer.
2. Voudouris, C., Tsang, E., Alsheddy, A. 2010. Guided Local Search, Handbook of Metaheuristics (2nd Edition), eds. Gendreau, M. and Potvin, J.-Y., Springer.
3. Voudouris, C., Tsang, E. P. K. and Alsheddy, A. 2010. Guided Local Search. Wiley Encyclopedia of Operations Research and Management Science.
4. Voudouris, C., Tsang, E., Alsheddy, A., 2010 Effective Application of Guided Local Search, Wiley Encyclopedia of Operations Research and Management Science, Wiley.

~ Journal Paper:

1. Alsheddy, A. A Penalty-based Multi-objectivization for single Objective Optimization Problem. Information Sciences, Elsevier, 2018.
2. Ahmad Alhindi, Abrar Alhindi, Atif Alhejali, Abdullah Alsheddy, Nasser Tairan, Hosam Alhakami. MOEA/D-GLS: a multiobjective memetic algorithm using decomposition and guided local search, Soft Computing, Springer 2018.
3. Alsheddy, A. A Two-Phase Local Search Algorithm for the Ordered Clustered Travelling Salesman Problem. International Journal of Metaheuristics, Inderscience, 2018.
4. Alsheddy, A. Solving the Free Clustered TSP Using a Memetic Algorithm. INTERNATIONAL JOURNAL OF ADVANCED COMPUTER SCIENCE AND APPLICATIONS. 2017.
5. Alsheddy, A. The Application of Pareto Local Search to the Single-Objective Quadratic Assignment Problem. In: Seventh Annual Symposium on Combinatorial Search. 2014.
6. Alsheddy, A. A Penalty-based Multi-objectivization Approach for Solving Single-Objective Optimization, Metaheuristic International Conference (MIC2013), Singapore, Aug 2013.
7. Kampouridis , M., Alsheddy, A. and Tsang, E.P.K. On the investigation of hyper-heuristics on a financial forecasting problem. Annals of Mathematics and Artificial Intelligence, Springer, 2012.

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8. Alsheddy, Abdullah, and Edward PK Tsang. Empowerment scheduling for a field workforce. *Journal of Scheduling* 14.6 (2011): 639-654.
9. Yossi Borenstein, Nazaraf Shah, Edward Tsang, Raphael Dorne, Abdullah Alsheddy, Christos Voudouris. On the partitioning of dynamic workforce scheduling. 2010, *Journal of Scheduling*, Springer.

~ Conference Papers:

1. Alsheddy, A. The Application of Pareto Local Search to the Single-Objective Quadratic Assignment Problem. In: *Seventh Annual Symposium on Combinatorial Search*. 2014.
2. Alsheddy, A. A Penalty-based Multi-objectivization Approach for Solving Single-Objective Optimization, *Metaheuristic International Conference (MIC2013)*, Singapore, Aug 2013.
3. Alsheddy, A. and Kampouridis, M. Off-line Parameter Tuning for Guided Local Search Using Genetic Programming. *IEEE International Conference on Evolutionary Computation (IEEE CEC)*, Brisbane, Australia, June 2012.
4. Alsheddy, A. and Tsang, E.P.K. A Guided Local Search Based Algorithm for The Multiobjective Empowerment-based Field Workforce Scheduling, *UK Workshop on Computational Intelligence (UKCI)*, Colchester, UK, September 2010.
5. Alsheddy, A. and Tsang, E.P.K. Guided Pareto Local Search Based Frameworks for Pareto Optimization, *WCCI2010*, Barcelona, Spain, July 2010.
6. A. Alsheddy, A. & Tsang, E.P.K. Empowerment-based workforce scheduling problem, *4th Multidisciplinary international scheduling Conference: Theory & Applications (MISTA)*, Dublin, 10-12 August 2009.
7. Alsheddy, A. and Tsang, E.P.K. Guided Pareto Local Search and its Application to the 0/1 Multi-objective Knapsack Problems, *MIC09*, Hamburg July 2009.
8. Yossi Borenstein, Nazaraf Shah, Edward Tsang, Raphael Dorne, Abdullah Alsheddy, Christos Voudouris. On the partitioning of dynamic scheduling problems: assigning technicians to areas. In *Proceedings of GECCO'2008*. pp.1691~1692.
9. Yossi Borenstein , Abdullah Alsheddy , Edward Tsang , Nazaraf Shah, The degree of dynamism for workforce scheduling problem with stochastic task duration, *Proceedings of the 11th annual conference companion on Genetic and evolutionary computation conference*, July 08-12, 2009, Montreal, Québec, Canada.

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10. A. Alsheddy, A., E.P.K. Tsang, Y. Borenstein, N. Shah & R. Dorne, Dynamic Scheduling Problems: Scheduling Algorithm vs. Rule-based Expert System, Computational Management Science Conference, Imperial College, London, 26-28 March, 2008.
11. A. Alsheddy&E.P.K.Tsang, On the Implementation of Empowerment in Workforce Scheduling Systems, 6th International Conference on Computational Management Science, Geneva, May 1-3 2009.