

Aldy GUNAWAN

School of Computing and Information Systems
Singapore Management University (SMU)
80 Stamford Road
Singapore 178902

Email: aldygunawan@smu.edu.sg



Education

PhD, National University of Singapore, Singapore, 2009
Master of Engineering, National University of Singapore, Singapore, 2004
Master of Science, National University of Singapore, Singapore, 2002
Bachelor of Engineering, University of Surabaya, Indonesia, 1998

Academic Appointments

Associate Professor of Computer Science (Practice), School of Computing and Information Systems, SMU, Jul 2023 - Present
Assistant Professor of Computer Science (Practice), School of Computing and Information Systems, SMU, Apr 2021 - Jun 2023
Assistant Professor of Information Systems (Practice), School of Computing and Information Systems, SMU, Jan 2020 - Mar 2021
Visiting Assistant Professor of Information Systems, School of Computing and Information Systems, SMU, Jan 2018 - Dec 2019

Academic Administrative Positions

Technical Advisor, DHL-SMU Analytics Lab, School of Computing and Information Systems, SMU, Sep 2018 - Aug 2019

RESEARCH

Research Interests

1. Heuristics Search and Optimization
2. Planning and Scheduling
3. Operations Analytics
4. Algorithms Configuration and Algorithm Portfolio
5. Recommender System

Publications

Journal Articles [Refereed]

Simulated annealing with reinforcement learning for the set team orienteering problem with time windows, by YU, Vincent F.; SALSABILA, Nabila Y.; LIN, Shih-Wei; GUNAWAN, Aldy.. (2024). *Expert Systems with Applications*, 238 1-15. <https://doi.org/10.1016/j.eswa.2023.121996> (Published)

A simulated annealing with variable neighborhood descent approach for the heterogeneous fleet vehicle routing problem with multiple forward/reverse cross-docks, by YU, Vincent F.; ANH, Pham Tuan; GUNAWAN, Aldy; HAN, Hsun. (2024). *Expert Systems with Applications*, 237 1-18. <https://doi.org/10.1016/j.eswa.2023.121631> (Published)

The vehicle routing problem with simultaneous pickup and delivery and occasional drivers, by YU, Vincent F.; ALOINA, Grace; JODIAWAN, Panca; GUNAWAN, Aldy; HUANG, Tsung-C.. (2023). *Expert Systems with Applications*, 214 1-16. <https://doi.org/10.1016/j.eswa.2022.119118> (Published)

The important role of system dynamics investigation on business model, industry and performance management, by GOZALI, Lina; ZAGLOEL, Teuku Yuri M.; SIMATUPANG, Togar Mangihut; SUTOPO, Wahyudi; GUNAWAN, Aldy; LIANG, Yun-Chia; YAHYA, Bernardo Nugroho; GARZA-REYES, Jose Arturo; IRAWAN, Agustinus Purna; SUSENO, Yuliani. (2023). *International Journal of Productivity and Performance Management*, 1-36. <https://doi.org/10.1108/IJPPM-07-2021-0399> (Advance Online)

Time dependent orienteering problem with time windows and service time dependent profits, by KHODADADIAN, M.; DIVSALAR, A.; VERBEECK, C.; GUNAWAN, Aldy; WANSTEENWEGEN, P.. (2022). *Computers and Operations Research*, 143 1-18. <https://doi.org/10.1016/j.cor.2022.105794> (Published)

Metaheuristics for time-dependent vehicle routing problem with time windows, by LIANG, Yun-C; MINANDA, Vanny; GUNAWAN, Aldy; CHEN, Hsiang-L.. (2022). *International Journal of Operational Research*, 1-20. (Forthcoming)

Design of a two-echelon freight distribution system in last-mile logistics considering covering locations and occasional drivers, by YU, Vincent F.; JODIAWAN, Panca; HOU, Ming-Lu; GUNAWAN, Aldy. (2021). *Transportation Research Part E: Logistics and Transportation Review*, 154 1-30. <https://doi.org/10.1016/j.tre.2021.102461> (Published)

Vehicle routing: Review of benchmark datasets, by GUNAWAN, Aldy; KENDALL, Graham; McCOLLUM, Barry; SEOW, Hsin-Vonn; LEE, Lai Soon. (2021). *Journal of the Operational Research Society*, 72 (8), 1794-1807. <https://doi.org/10.1080/01605682.2021.1884505> (Published)

The Multi-Vehicle Cyclic Inventory Routing Problem: Formulation and a Metaheuristic Approach, by YU, Vincent. F.; WIDJAJA, Audrey W.; GUNAWAN, Aldy; VANSTEENWEGEN, Pieter. (2021). *Computers and Industrial Engineering*, 157 1-17. <https://doi.org/10.1016/j.cie.2021.107320> (Published)

An Adaptive Large Neighborhood Search for the green mixed fleet vehicle routing problem with realistic energy consumption and partial recharges, by YU, Vincent F.; JODIAWAN, Panca; GUNAWAN, Aldy. (2021). *Applied Soft Computing*, 105 1-16. <https://doi.org/10.1016/j.asoc.2021.107251> (Published)

Two-phase Matheuristic for the vehicle routing problem with reverse cross-docking, by GUNAWAN, Aldy; WIDJAJA, Audrey T.; VANSTEENWEGEN, Pieter; YU, Vincent F.. (2022). *Annals of Mathematics and Artificial Intelligence*, 90 (7-9), 1-35. <https://doi.org/10.1007/s10472-021-09753-3> (Advance Online)

Waste collection routing problem: A mini-review of recent heuristic approaches and applications, by LIANG, Yun-Chia; MINANDA, Vanny; GUNAWAN, Aldy.. (2022). *Waste Management & Research*, 40 (5), 1-19. <https://doi.org/10.1177/0734242X211003975> (Published)

A matheuristic algorithm for the vehicle routing problem with cross-docking, by GUNAWAN, Aldy; WIDJAJA, Audrey T.; VANSTEENWEGEN, Pieter; YU, Vincent F.. (2021). *Applied Soft Computing*, 103 1-13. <https://doi.org/10.1016/j.asoc.2021.107163> (Published)

Optimal collaborative path planning for unmanned surface vehicles carried by a parent boat along a planned route, by PRASETIA, Ari Carisza Graha; WANG, I-Lin; GUNAWAN, Aldy. (2020). *International Journal of Operational Research*, 17 (4), 101-116. [https://doi.org/10.6886/IJOR.202012_17\(4\).0001](https://doi.org/10.6886/IJOR.202012_17(4).0001) (Published)

Design of a two-echelon freight distribution system in an urban area considering third-party logistics and loading-unloading zones, by YU, Vincent F.; WINARNO; LIN, Shih-Wei; GUNAWAN, Aldy. (2020). *Applied*

Soft Computing, 97(B), 1-14. <https://doi.org/10.1016/j.asoc.2020.106707> (Published)

European floating strike lookback options: Alpha prediction and generation using unsupervised learning, by LIM, Tristan; ONG, Chin Sin; GUNAWAN, Aldy. (2020). *Journal of Financial Data Science*, 2 (4), 59-70. <https://doi.org/10.3905/jfds.2020.1.043> (Published)

An Exact Algorithm for Agile Earth Observation Satellite Scheduling with Time-Dependent Profits, by PENG, Guansheng; SONG, Guopeng; XING, Lining; GUNAWAN, Aldy; VANSTEENWEGEN, Pieter. (2020). *Computers and Operations Research*, 120 1-15. <https://doi.org/10.1016/j.cor.2020.104946> (Published)

Selective discrete particle swarm optimization for the team orienteering problem with time windows and partial scores, by YU, Vincent F.; REDI, Perwira A. A. N.; JEWpanya, Parida; GUNAWAN, Aldy. (2019). *Computers and Industrial Engineering*, 138 1-13. <https://doi.org/10.1016/j.cie.2019.106084> (Published)

Agile earth observation satellite scheduling: An orienteering problem with time-dependent profits and travel times, by PENG, Guansheng; DEWIL, Reginald; VERBEECK, Cédric; GUNAWAN, Aldy; XING, Lining; VANSTEENWEGEN, Pieter. (2019). *Computers and Operations Research*, 111 84-98. <https://doi.org/10.1016/j.cor.2019.05.030> (Published)

ADOPT: Combining parameter tuning and Adaptive Operator Ordering for solving a class of Orienteering Problems, by GUNAWAN, Aldy; LAU, Hoong Chuin; LU, Kun. (2018). *Computers and Industrial Engineering*, 121 82-96. <https://doi.org/10.1016/j.cie.2018.05.016> (Published)

An iterated local search algorithm for the team orienteering problem with variable profits, by GUNAWAN, Aldy; NG, Kien Ming; KENDALL, Graham; LAI, Junhan. (2018). *Engineering Optimization*, 50 (7), 1148-1163. <https://doi.org/10.1080/0305215X.2017.1417398> (Published)

Well-tuned algorithms for the Team Orienteering Problem with Time Windows, by GUNAWAN, Aldy; LAU, Hoong Chuin; VANSTEENWEGEN, Pieter; LU, Kun. (2017). *Journal of the Operational Research Society*, 68 (8), 861-876. <https://doi.org/10.1057/s41274-017-0244-1> (Published)

Orienteering Problem: A survey of recent variants, solution approaches and applications, by GUNAWAN, Aldy; LAU, Hoong Chuin; VANSTEENWEGEN, Pieter. (2016). *European Journal of Operational Research*, 255 (2), 315-332. <https://doi.org/10.1016/j.ejor.2016.04.059> (Published)

Patrol scheduling in urban rail network, by LAU Hoong Chuin; YUAN, Zhi; GUNAWAN Aldy. (2016). *Annals of Operations Research*, 239 (1), 1-26. <http://dx.doi.org/10.1007/s10479-014-1648-9> (Published)

Master physician scheduling problem, by GUNAWAN, Aldy; LAU, Hoong Chuin. (2013). *Journal of the Operational Research Society*, 64 (3), 410-425. <https://doi.org/10.1057/jors.2012.48> (Published)

A hybridized Lagrangian relaxation and simulated annealing method for the course timetabling problem, by GUNAWAN, Aldy; NG, Kien Ming; POH, Kim Leng. (2012). *Computers and Operations Research*, 39 (12), 3074-3088. <https://doi.org/10.1016/j.cor.2012.03.011> (Published)

Journal Articles [Non-Refereed]

Solving the teacher assignment problem by two Metaheuristics, by GUNAWAN, Aldy; NG, Kien Ming. (2011). *International Journal of Information and Management Sciences*, 22 (1), 73-86. (Published)

An improvement heuristic for the timetabling problem, by GUNAWAN, Aldy; NG, Kien Ming; POH, Kim Leng. (2007). *International Journal Computational Science*, 1 (2), 162-178. (Published)

Solving the teacher assignment-course scheduling problem by a hybrid Algorithm, by GUNAWAN, Aldy; NG, Kien Ming; POH, Kim Leng. (2007). *International Journal of Computer, Information, and Systems Science, and Engineering*, 1 (2), 136-141. (Published)

Books (Refereed)

Orienteering problems: Models and algorithms for vehicle routing problems with profits (EURO Advanced Tutorials on Operational Research), by VANSTEENWEGEN, Pieter; GUNAWAN, Aldy. (2019). Cham: Springer. <https://doi.org/10.1007/978-3-030-29746-6> (Published)

Conference Proceedings

ExploreLah: Personalised and smart trip planner for mobile tourism, by GUNAWAN, Aldy; HOE, Siu Loon; LIM, Xun Yi; TRAN, Linh Chi; NGUYEN, Dang Viet Anh. (2023.0). *Proceedings of the IEEE International Conference on Industrial Engineering and Engineering Management (IEEM) 2023, Singapore, December 18-21*, (pp. 1-5) New York, NY, USA: IEEM. (Published)

GRASP solution approach for the e-waste collection problem, by GUNAWAN, Aldy; NGUYEN, Dang Viet Anh; NGUYEN, Pham Kien Minh; VANSTEENWEGEN, Pieter. (2023.0). *Proceedings of the 14th International Conferences on Computational Logistics, Berlin, Germany, 2023 Sep 6-8*, (pp. 260-275) Switzerland: Springer Nature. https://doi.org/10.1007/978-3-031-43612-3_16 (Published)

Carbon-aware mine planning with a novel multi-objective framework, by AZHAR, Nurul Asyikeen Binte; GUNAWAN, Aldy; CHENG, Shih-Fen; LEONARDI, Erwin. (2023.0). *Proceedings of the Fourteenth International Conference on Computational Logistics, Berlin, Germany, 2023 September 6-8*, (pp. 1-16) ICCL: (Published)

The heterogeneous vehicle routing problem with multiple time windows for the e-waste collection problem, by GUNAWAN, Aldy; NGUYEN, Minh P.K; YU, Vincent F.; NGUYEN, Dang V.A.. (2023.0). *Proceedings of 2023 IEEE 19th International Conference on Automation Science and Engineering (CASE), Auckland, New Zealand, August 26-30*, (pp. 1-6) Auckland: IEEE. <https://doi.org/10.1109/CASE56687.2023.10260477> (Published)

An adaptive large neighborhood search for heterogeneous vehicle routing problem with time windows, by NGUYEN, Minh Pham Kien; GUNAWAN, Aldy; YU, Vincent F.; MISIR, Mustafa. (2023.0). *Proceedings of the 19th IEEE International Conference on Automation Science and Engineering (CASE), Auckland, New Zealand, 2023 Aug 26-30*, New York: IEEE. <https://doi.org/10.1109/CASE56687.2023.10260380> (Published)

GRASP based metaheuristic to solve the mixed fleet e-waste collection route planning problem, by GUNAWAN, Aldy; NGUYEN, Dang V.A.; NGUYEN, Pham K.M.; VANSTEENWEGEN, Pieter.. (2023.0). *Proceedings of the 17th International Congress on Logistics and SCM Systems (ICLS 2023), Seoul, South Korea, 2023 Aug 9-12*, Seoul: Springer. (Published)

Vehicle routing problem with parcel locker and public transportation: Goods delivery using mass-rapid-transit system, by NGUYEN, Pham K.M.; YU, Vincent F.; GUNAWAN, Aldy. (2023.0). *Proceedings of the 17th International Congress on Logistics and SCM Systems (ICLS 2023), Seoul, August 9-12*, Seoul: (Published)

The analysis of extended producer responsibility (EPR) for e-waste management Policy Drivers and Challenges in Singapore, by GUNAWAN, Aldy; VISAWAMETEEKUL, Tasaporn; WONG, Aidan; TRAN, Linh C.. (2023.0). *Proceedings of the 17th International Congress on Logistics and SCM Systems (ICLS 2023), Seoul, August 9-12*, (pp. 1-20) Seoul: (Published)

An exploratory study on museum visitor ship trends in Singapore, by GUNAWAN, Aldy; LIU, Chentao; SUBRAMANIAM, Heranshan S/O; TAN, Melissa; TAN, Ranice; TAY, Clarence; VISAWAMETEEKUL, Tasaporn. (2023.0). *Proceedings of the International Conference on Industrial Engineering and Operations Management Manila, Philippines, 2023 March 7-9*, (pp. 233-242) Manila: IEOM Society International. (Published)

Pickup and multi-delivery problem with time windows, by ANH, Pham Tuan; GUNAWAN, Aldy; YU, Vincent F.; CHAU, Tuan C.. (2022.0). *2022 IEEE International Conference on Industrial Engineering and Engineering Management IEEM: Kuala Lumpur, December 7-10: Proceedings*, (pp. 571-575) Piscataway, NJ: IEEE. <https://doi.org/10.1109/IEEM55944.2022.9989995> (Published)

Cold calls to enhance class participation and student engagement, by THULASIDAS, Manoj; GUNAWAN, Aldy. (2022.0). *2022 IEEE International Conference on Teaching, Assessment, and Learning for Engineering (TALE); Hong Kong, December 4-7: Proceedings*, (pp. 699-702) Piscataway, NJ: IEEE. <https://doi.org/10.1109/TALE54877.2022.00122> (Published)

A carbon-aware planning framework for production scheduling in mining, by AZHAR, Nurul A.; GUNAWAN, Aldy; CHENG, Shih-Fen; LEONARDI, Erwin. (2022.0). *ICCL 2022: Proceedings of the 13th International Conference, Barcelona, September 21-23*, (pp. 441-456) Cham: Springer. https://doi.org/10.1007/978-3-031-16579-5_30 (Published)

Integrating forward and reverse logistics in vehicle routing problem with cross-docking, by YU, Vincent F.; ANH, Pham Tuan; GUNAWAN, Aldy; HAN, Hsun. (2022.0). *Proceedings of the 16th International Congress on Logistics and SCM Systems: Logistics Technology and Innovation in the VUCA World, Khon Kaen*,

Thailand, 2022 August 28-30, Thailand: (Published)

Algorithm selection for the team orienteering problem, by MISIR, Mustafa; GUNAWAN, Aldy; VANSTEENWEGEN, Pieter. (2022.0). *Evolutionary Computation in Combinatorial Optimization: European Conference, EvoCOP 2022, Madrid, Spain, April 20-22: Proceedings*, (pp. 33-45) Cham: Springer. https://doi.org/10.1007/978-3-031-04148-8_3 (Published)

Exploring and evaluating the impact of COVID-19 on mobility changes in Singapore, by GUNAWAN, Aldy; TRAN, Linh Chi; TAN, Kar Way; WANG, I-Lin. (2022.0). *Proceedings of the 12th Annual International Conference on Industrial Engineering and Operations Management, Istanbul, Turkey, 2022 March 7-10*, (pp. 4104-4115) Istanbul, Turkey: IEOM. <https://ieomsociety.org/proceedings/2022istanbul/773.pdf> (Published)

Analyzing the impact of digital payment on efficiency and productivity of commercial banks: A case study in China, by WANG, Haopeng; GUNAWAN, Aldy. (2022.0). *Proceedings of the 12th Annual International Conference on Industrial Engineering and Operations Management, Istanbul, Turkey, March 7-10*, (pp. 1-11) Turkey: IEOM. (Published)

On analysing student resilience in higher education programs using a data-driven approach, by WIDJAJA, Audrey Tedja; LIM, Ee-Peng; GUNAWAN, Aldy. (2021.0). *2021 IEEE International Conference on Engineering, Technology & Education (TALE): Wuhan, December 5-8: Proceedings*, (pp. 261-267) Piscataway, NJ: IEEE. <https://doi.org/10.1109/TALE52509.2021.9678537> (Published)

Redesigning patient flow in paediatric eye clinic for pandemic using simulation, by TAN, Kar W.; GOH, Bee K.; GUNAWAN, Aldy. (2021.0). *Proceedings of the 2021 IEEE International Smart Cities Conference (ISC2)*, USA: IEEE. (Published)

Set Team Orienteering Problem with Time Windows, by GUNAWAN, Aldy; YU, Vincent F.; SUTANTO, Andro N.; JODIAWAN, Panca. (2021.0). *Learning and Intelligent Optimization: 15th International Conference, LION 15 2021, Athens, Greece, Virtual, June 20-25: Proceedings*, (pp. 142-149) Cham: Springer. https://doi.org/10.1007/978-3-030-92121-7_12 (Published)

Vehicle routing problem with reverse cross-docking: An adaptive large neighborhood search algorithm, by GUNAWAN, Aldy; WIDJAJA, Audrey T.; VANSTEENWEGEN, Pieter; YU, Vincent F.. (2020.0). *Proceedings of the 11th International Conference on Computational Logistics (ICCL 2020): September 28-30, Enschede, The Netherlands, Germany: Springer*. https://doi.org/10.1007/978-3-030-59747-4_11 (Published)

Adaptive large neighborhood search for vehicle routing problem with cross-docking, by GUNAWAN, Aldy; WIDJAJA, Audrey Tedja; VANSTEENWEGEN, Pieter; YU, Vincent F.. (2020.0). *2020 IEEE World Congress on Computational Intelligence (WCCI): Virtual, Glasgow, July 19-24: Proceedings*, (pp. 1-8) Piscataway, NJ: IEEE. <https://doi.org/10.1109/CEC48606.2020.9185514> (Published)

Next-term grade prediction: A machine learning approach, by WIDJAJA, Audrey Tedja; WANG, Lei; TRUONG, Nghia Trong; GUNAWAN, Aldy; LIM, Ee-Peng. (2020.0). *Proceedings of the Thirteenth International Conference on Educational Data Mining (EDM 2020): Virtual conference, July 10-13*, (pp. 700-703) Virtual: (Published)

A matheuristic algorithm for solving the vehicle routing problem with cross-docking, by GUNAWAN, Aldy; WIDJAJA, Audrey Tedja; VANSTEENWEGEN, Pieter; YU, Vincent F.. (2020.0). *Proceedings of the 14th Learning and Intelligent Optimization Conference (LION 2020), Athens, Greece, May 24-28*, (pp. 9-15) Greece: Springer. https://doi.org/10.1007/978-3-030-53552-0_2 (Published)

Incorporating a reverse logistics scheme in a vehicle routing problem with cross-docking network: A modelling approach, by WIDJAJA, Audrey Tedja; GUNAWAN, Aldy; JODIAWAN, Panca; YU, Vincent F.. (2020.0). *2020 IEEE 7th International Conference on Industrial Engineering and Applications (ICIEA): Bangkok, Thailand, April 16-21: Proceedings*, (pp. 854-858) Piscataway, NJ: IEEE. <https://doi.org/10.1109/ICIEA49774.2020.9101972> (Published)

Vehicle routing problem for multi-product cross-docking, by GUNAWAN, Aldy; WIDJAJA, Audrey T.; GAN, Benjamin Gan Kok Siew; YU, Vincent F.; JODIAWAN, Panca. (2020.0). *Proceedings of the International Conference on Industrial Engineering and Operations Management 2020: Dubai, UAE, March 10-12*, (pp. 66-77) Southfield, MI: IEOM Society. (Published)

A mathematical programming model for the green mixed fleet vehicle routing problem with realistic energy consumption and partial recharges, by YU, Vincent F.; JODIAWAN, Panca; GUNAWAN, Aldy; WIDJAJA, Audrey Tedja. (2019.0). *2019 IEEE International Conference on Industrial Engineering and*

Engineering Management (IEEM): Macau, December 15-18: Proceedings, (pp. 1339-1343) Piscataway, NJ: IEEE. <https://doi.org/10.1109/IEEM44572.2019.8978715> (Published)

Harmony search algorithm for time-dependent vehicle routing problem with time windows, by LIANG, Yun-Chia; MINANDA, Vanny; GUNAWAN, Aldy; CHEN, Angela Hsiang-Ling. (2019.0). *Proceedings of APIEMS 2019: The 20th Asia Pacific Industrial Engineering And Management Systems, Kanazawa, Japan, December 2-5*, (pp. 753-757) Kanazawa, Japan: APIEMS. (Published)

InSPeCT: Iterated local search for solving path conditions, by CHEN, Fuxiang; GUNAWAN, Aldy; LO, David; KIM, Sunghun. (2019.0). *2019 15th IEEE International Conference on Automation Science and Engineering (CASE): Vancouver, August 22-26: Proceedings*, (pp. 1724-1729) Piscataway, NJ: IEEE. <https://doi.org/10.1109/COASE.2019.8843039> (Published)

Simulated annealing for the multi-vehicle cyclic inventory routing problem, by GUNAWAN, Aldy; YU, Vincent F.; WIDJAJA, Audrey T.; VANSTEENWEGEN, Pieter. (2019.0). *2019 IEEE 15th International Conference on Automation Science and Engineering: Vancouver, Canada, August 22-26: Proceedings*, (pp. 691-696) Piscataway, NJ: IEEE. <https://doi.org/10.1109/COASE.2019.8842945> (Published)

Simulated annealing for the single-vehicle cyclic inventory routing problem, by GUNAWAN, Aldy; YU, Vincent F.; WIDJAJA, Audrey T.; VANSTEENWEGEN, Pieter.. (2019.0). *GECCO '19: Proceedings of the Genetic and Evolutionary Computation Conference Companion, Prague, Czech Republic, 2019 July 13-17*, (pp. 1-2) Prague, Czech Republic: ACM. <https://doi.org/10.1145/3319619.3321888> (Published)

The capacitated team orienteering problem, by GUNAWAN, Aldy; NG, Kien Ming; YU, Vincent F.; ADIPRASETYO, Gordy; LAU, Hoong Chuin. (2019.0). *Proceedings of the 9th International Conference on Industrial Engineering and Operations Management 2019: Bangkok, Thailand, March 5-7*, (pp. 1630-1638) Bangkok: IEOM Society. (Published)

An essential Applied Statistical Analysis course using RStudio with Project-Based Learning for data science, by GUNAWAN, Aldy; CHEONG, Michelle L. F.; POH, Johnson. (2018.0). *2018 IEEE International Conference on Teaching, Assessment and Learning for Engineering (TALE): Wollongong, Australia, December 4-7*, (pp. 581-588) Piscataway, NJ: IEEE. <https://doi.org/10.1109/TALE.2018.8615145> (Published)

Iterated local search algorithm for the capacitated team orienteering problem, by GUNAWAN, Aldy; NG, Kien Ming; YU, Vincent F.; ADIPRASETYO, Gordy; LAU, Hoong Chuin.. (2018.0). *Proceedings of the 12th International Conference on the Practice and Theory of Automated Timetabling (PATAT 2018), Vienna, Austria, August 28-31*, (pp. 493-496) Vienna: PATAT. (Published)

Instance-specific selection of AOS methods for solving combinatorial optimisation problems via neural networks, by TENG, Teck Hou; LAU, Hoong Chuin; GUNAWAN, Aldy. (2018.0). *Learning and Intelligent Optimization: 12th International Conference, LION 12, Kalamata, Greece, June 10-15: Proceedings*, (pp. 98-114) Cham: Springer. https://doi.org/10.1007/978-3-030-05348-2_9 (Published)

Home health care delivery problem, by GUNAWAN, Aldy; LAU, Hoong Chuin; LU, Kun. (2017.0). *MISTA 2017: Proceedings of the 8th Multidisciplinary International Conference on Scheduling: Theory and Applications: Kuala Lumpur, December 5-8*, (pp. 244-255) Kuala Lumpur: MISTA. (Published)

A selective-discrete particle swarm optimization algorithm for solving a class of orienteering problems, by GUNAWAN, Aldy; YU, Vincent; REDI, Perwira; JEWPAÑYA, Parida; LAU, Hoong Chuin. (2017.0). *MISTA 2017: Proceedings of the 8th Multidisciplinary International Conference on Scheduling: Theory and Applications: Kuala Lumpur, December 5-8*, (pp. 229-243) Kuala Lumpur: MISTA. (Published)

An intelligent system for personalized conference event recommendation and scheduling, by GUNAWAN, Aldy; LAU, Hoong Chuin; VARAKANTHAM, Pradeep; WANG, Wenjie. (2016.0). *ECAI 2016: 22nd European Conference on Artificial Intelligence, 29 August-2 September 2016, The Hague*, (pp. 1797-1802) Amsterdam: IOS Press. <https://doi.org/10.3233/978-1-61499-672-9-1797> (Published)

A fast algorithm for personalized travel planning recommendation, by GUNAWAN, Aldy; LAU, Hoong Chuin; LU, Kun. (2016.0). *PATAT 2016: Proceedings of the 11th International Conference of the Practice and Theory of Automated Timetabling: Udine, Italy, August 23-26, 2016*, (pp. 163-179) Udine, Italy: PATAT. http://www.patatconference.org/patat2016/files/proceedings/paper_15.pdf (Published)

Enhancing local search with adaptive operator ordering and its application to the time dependent orienteering problem, by GUNAWAN, Aldy; LAU, Hoong Chuin; LU, Kun. (2016.0). *PATAT 2016: Proceedings of the 11th International Conference of the Practice and Theory of Automated Timetabling: Udine, Italy, August 23-26, 2016*, (pp. 181-193) Udine, Italy: PATAT.

http://www.patatconference.org/patat2016/files/proceedings/paper_16.pdf (Published)

Designing and comparing multiple portfolios of parameter configurations for online algorithm selection, by GUNAWAN, Aldy; LAU, Hoong Chuin; MISIR, Mustafa. (2016.0). *Learning and Intelligent Optimization: 10th International Conference, LION 10, Ischia, Italy, May 29 - June 1, 2016, Revised Selected Papers*, (pp. 91-106) Cham: Springer. https://doi.org/10.1007/978-3-319-50349-3_7 (Published)

PRESS: Personalized event scheduling recommender system (demonstration), by LAU, Hoong Chuin; GUNAWAN, Aldy; VARAKANTHAM, Pradeep; WANG, Wenjie. (2016.0). *15th International Conference on Autonomous Agents and Multiagent Systems: AAMAS 2016, Singapore, 2016 May 9-13*, (pp. 1513-1514) Singapore: International Foundation for Autonomous Agents and Multiagent Systems (IFAAMAS). (Published)

Performance based contracting for the manufacturing industry by using integrated platform and dynamic pricing model, by LINDAWATI; GUNAWAN, Aldy. (2015.0). *2015 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM): Singapore, December 6-9: Proceedings*, (pp. 1578-1582) Piscataway, NJ: IEEE. <https://doi.org/10.1109/IEEM.2015.7385913> (Published)

SAILS: Hybrid algorithm for the Team Orienteering Problem with Time Windows, by GUNAWAN, Aldy; LAU, Hoong Chuin; LU, Kun. (2015.0). *MISTA 2015: Proceedings of the 7th Multidisciplinary International Scheduling Conference, Prague, Czech Republic, August 25-28, 2015*, (pp. 276-295) Prague: MISTA. <http://schedulingconference.org/proceedings/2015/mista2015.pdf> (Published)

An iterated local search algorithm for solving the Orienteering Problem with Time Windows, by GUNAWAN, Aldy; LAU, Hoong Chuin; LU, Kun. (2015.0). *Evolutionary Computation in Combinatorial Optimization: 15th European Conference, EvoCOP 2015, Copenhagen, Denmark, April 8-10, 2015, Proceedings*, (pp. 61-73) Cham: Springer. http://doi.org/10.1007/978-3-319-16468-7_6 (Published)

Designing a portfolio of parameter configurations for online algorithm selection, by GUNAWAN, Aldy; LAU, Hoong Chuin; MISIR, Mustafa. (2015.0). *Algorithm Configuration: Papers from the 2015 AAAI Workshop: January 25-29, Austin, TX*, (pp. 2-8) Palo Alto, CA: AAAI Press. (Published)

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Real-world parameter tuning using factorial design with parameter decomposition, by GUNAWAN, Aldy; LAU, Hoong Chuin; WONG, Elaine. (2013.0). *Advances in metaheuristics: Proceedings of the Ninth Meta-heuristics International Conference, Udine, Italy, 25-28 July 2011*, (pp. 37-59) Cham: Springer Verlag. http://doi.org/10.1007/978-1-4614-6322-1_3 (Published)

The patrol scheduling problem, by LAU, Hoong Chuin; GUNAWAN, Aldy. (2012.0). *Practice and Theory of Automated Timetabling (PATAT 2012): 29-31 August: Proceedings*, (pp. 175-192) Son, Norway: PATAT. <http://www.patatconference.org/patat2012/proceedings.html> (Published)

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Solving the quadratic assignment problem by a Hybrid Algorithm, by GUNAWAN, Aldy; NG, Kien Ming; POH, Kim Leng. (2011.0). *Proceeding of the International Conference on Advanced Science, Engineering and Information Technology 2011, Malaysia, 14-15 January*, (pp. 36-41) Bangi-Putrajaya, Malaysia: (Published)

The Bi-objective master physician scheduling problem, by GUNAWAN, Aldy; LAU, Hoong Chuin. (2010.0). *PATAT 2010: Proceedings of 8th International Conference on the Practice and Theory of Automated Timetabling: Belfast, 10-13 August*, (pp. 241-258) New York: Springer. (Published)

Conference Papers

Solving the vehicle routing problem with simultaneous pickup and delivery and occasional drivers by simulated annealing, by YU, Vincent F.; ALOINA, Grace; JODIAWAN, Panca; GUNAWAN, Aldy; HUANG, Tsung-C.. (2021.0). *IEEE International Conference on Industrial Engineering and Engineering Management 28th IEEM 2021, December 13-16*, Singapore. (Presented)

Vehicle routing problem with parcel locker sharing in a collaborative environment, by MUHAMMAD, Fajri Rasyid; YU, Vincent F.; SOPHA, Bertha Maya; GUNAWAN, Aldy. (2020.0). *International Conference on Intelligent Production and Operations 1st IPO 2020*, Taiwan. <http://www.ipo2020.org/> (Published)

Two-echelon vehicle routing problem with occasional drivers, by PUTRA, Kuza; YU, Vincent F.; DHARMA, I Gusti Bagus Budi; GUNAWAN, Aldy. (2020.0). *International Conference on Intelligent Production and Operations 1st IPO 2020*, Taiwan. (Published)

Simulated annealing for the share-a-ride problem with adjustable compartment, by PUTU, Agus Yudisuda Indrakarna; YU, Vincent F.; GUNAWAN, Aldy. (2019.0). *IEEE International Conference on Industrial Engineering and Engineering Management (IEEM 2019)*, Macau, December 15-18, Macao, China. (Published)

EzLog: Data visualization for logistics, by GUNAWAN, Aldy; GAN Benjamin; TAN, Jin An; VILLANUEVA, Sheena L.S.L; WEN, Timothy K.J.. (2019.0). *International Congress on Logistics and SCM Systems 14th ICLC 2019, Taipei, Taiwan, August 19-22*, Taipei, Taiwan. (Published)

Integrated assignment and routing with mixed service mode cross-dock, by YU, Vincent, F.; GUNAWAN, Aldy; JUNAIDI, Eric I.; WIDJAJA, Audrey T.. (2019.0). *International Congress on Logistics and SCM Systems 14th ICLS 2019, Taipei, Taiwan, August 19-22*, Taipei, Taiwan. (Published)

A green mixed fleet vehicle routing problem with realistic energy consumption and partial recharges, by YU, Vincent F.; JODIAWAN, Panca; GUNAWAN, Aldy. (2019.0). *International Congress on Logistics and SCM Systems 14th ICLC 2019, Taipei, Taiwan, August 19-22*, Taipei, Taiwan. (Published)

Research Grants

Singapore Management University

“E-waste must never be wasted” : Vehicle Route Planning Optimization for E-Waste Collection, SMU Internal Grant, Ministry of Education (MOE) Tier 1 , PI (Project Level): Aldy GUNAWAN , Co-PI (Project Level): Aidan WONG, 2022, S\$91,140.07

Vehicle Routing Problem with a Reverse Cross-Dock, SMU Internal Grant, Ministry of Education (MOE) Tier 1 , PI (Project Level): Aldy GUNAWAN, 2019, S\$86,000

Other Institutions

Transition from Living Analytics Research Centre to Social Urban Observatory, Strategic Capabilities Research Centres Funding Initiative, NRF PI (Project Level): LIM Ee Peng, Co-PI (Project Level): ZHENG Baihua, Archan MISRA, Jing JIANG, Wei GAO, SUN Qianru, HARA, Kotaro, Palakorn ACHANANUPARP, 2021, SGD2,687,280

Optimization Models for City Logistics with Electric Vehicles, Ministry of Science and Technology (MOST)

Taiwan, Ministry of Science and Technology (MOST) Taiwan Vincent F. Yu, PI (Project Level): Aldy GUNAWAN, Vincent F. Yu, 2019, TWD160,000

TEACHING

Courses Taught

Singapore Management University

Undergraduate Programmes :

- Analytics Foundation
- Computer as an Analysis Tool
- Spreadsheet Modeling and Analytics

Postgraduate Professional Programmes :

- Applied Statistical Analysis with R
- Project
- Spreadsheet Modelling for Technology & Operations Decisions
- Spreadsheets Modeling for Decision Making

Postgraduate Research Programmes :

- Empirical Research Project I
- Empirical Research Project II
- Empirical Research Project III