Curriculum Vitae

May 2022

Personal information

Name	Alex Gliesch
Links	Webpage · GitHub · Google Scholar · LinkedIn
Date of birth	March 24, 1992
Citizenship	Brazilian

Education and research experience

2018–current (exp. Oct 2022)	Ph.D. Computer Science – Combinatorial Optimization Title: Exact and heuristic algorithms for districting problems Supervisor: Marcus Ritt GPA: 4.00/4.00 (expected)	UFRGS (Brazil)
2016–2018	M.Sc. Computer Science – Combinatorial Optimization Title: A genetic algorithm for fair land allocation Supervisor: Marcus Ritt GPA: 3.83/4.00	UFRGS (Brazil)
2011–2015	B.Sc. Computer Science Title: Solving Atomix exactly Supervisor: Marcus Ritt GPA: 3.91/4.00 – highest honors (pt. *láurea acadêmica*)	UFRGS (Brazil)
2014	Research Intern – Scientific Visualization Supervisor: Alexandru Telea Pattern visualization, clustering algorithms, geometric algorithms	University of Groningen (NL)
2013	Research Intern – Geological Simulation Supervisor: Mara Abel C++ programming, GUI development (Qt), refactoring legacy codebase	FAURGS/Petrobrás (Brazil)

Selected publications

Alex Gliesch and Marcus Ritt (2022). "A new heuristic for finding verifiable k-vertex-critical subgraphs." In: *Journal of Heuristics* 28, pp. 61–91. DOI: 10.1007/s10732-021-09487-9

Alex Gliesch and Marcus Ritt (2021). "A hybrid heuristic for the Maximum Dispersion Problem." In: *Eur. J. of Oper. Res.* 288.3, pp. 721–735. DOI: 10.1016/j.ejor.2020.06.011

Alex Gliesch, Marcus Ritt, Arthur H. S. Cruz, and Mayron C. O. Moreira (2020). "A hybrid heuristic for districting problems with routing criteria." In: *IEEE Congress on Evolutionary Computation*, pp. 1–9. DOI: 10.1109/CEC48606.2020.9185863

Alex Gliesch and Marcus Ritt (2019). "A generic approach to districting with diameter or center-based objectives." In: *Genetic and Evol. Comput. Conf.* Pp. 249–257. DOI: 10.1145/3321707.3321874

Alex Gliesch, Marcus Ritt, and Mayron C.O. Moreira (2018). "A Multistart Alternating Tabu Search for Commercial Districting." In: *Eur. Conf. on Evol. Comput. in Combinatorial Optim.* Springer, pp. 158–173. DOI: 10.1007/978-3-319-77449-7_11

Alex Gliesch, Marcus Ritt, and Mayron C.O. Moreira (2017). "A genetic algorithm for fair land allocation." In: *Genetic and Evol. Comput. Conf.* Pp. 793–800. DOI: 10.1145/3071178.3071313

Alex Gliesch and Marcus Ritt (2016). "Solving Atomix with pattern databases." In: *Brazilian Conf. on Intell. Sys. (BRACIS).* IEEE, pp. 61–66. DOI: 10.1109/BRACIS.2016.022

Skills

- Programming – C++, C, Rust, Python, R, AutoHotkey
- Technologies – CPLEX, irace, Boost, CMake, ggplot2, LaTeX
- Integer programming – MIP modeling, Lagrangean & Dantzig-Wolfe decomposition, column generation, lazy cuts, matheuristics
- Metaheuristics – neighborhood search (tabu, ILS, VNS), multistart methods, genetic algorithms
- Heuristic search for planning – A^*, IDA^*, PEA^*, pattern databases, standard relaxations
- Excellent technical writing

Honors and awards

2020	Google Latin America Research Award. Project: "Districting algorithms with applications to fair land allocation and health care"
2019	Best paper candidate, Genetic and Evolu. Comput. Conf. (GECCO): "A generic approach to districting with diameter or center-based objectives"
2017–2019	Google Latin America Research Award. Project: "Heuristic algorithms for fair land distribution and districting problems"
2018	Best paper candidate, Eur. Conf. on Evolu. Comput. in Comb. Optim. (EvoCOP): "A Multistart Alternating Tabu Search for Commercial Districting"
2018	PhD scholarship. Granted by the Brazilian agency CNPq to selected candidates with excellent academic performance
2018	2nd best Master's thesis in Brazil of the year 2018. Awarded by the Brazilian Computing Society (SBC)
2016	Master's scholarship. Granted by the Brazilian agency CNPq to selected candidates with excellent academic performance
2016	Best undergraduate student award. Awarded by the Brazilian Computing Society (SBC) to the student graduating with highest academic performance that year
2016	Graduation honors (pt. *láurea acadêmica*). Awarded by UFRGS upon completion of the B.Sc. Computer Science degree with over 80% A marks and no C marks
2014	Exchange scholarship, University of Groningen (NL). Granted by the Brazilian funding agency CAPES/BRANETEC

Other activities

2016–2017	ACM-ICPC team coach. The team qualified for the ACM-ICPC Latin American finals (2016) and regionals (2017)
2015	ACM-ICPC finalist (Latin America). Qualified as first-ranked team in the Rio Grande do Sul State, and 32nd out of 639 teams in Brazil
2012-2013, 2016, 2016, 2019	Teaching assistant: pre-calculus, fundamentals of algorithms, computer graphics, combinatorial optimization (resp. by year)