





Younan Gao

✉ younan.gao@unimib.it (Preferred)

🌐 <https://web.cs.dal.ca/~younan/>

Education

- Sept 2020 – August 2023  **Ph.D. Computer Science, Dalhousie University, Canada**
Supervisor: *Prof. Meng He*
Thesis: Data Structures for Colored Counting in Grids and Trees
Defence Date: *August 18, 2023*
- Sept 2018 – August 2020  **M.Sc. Computer Science, Dalhousie University, Canada**
Supervisor: *Prof. Meng He*
GPA: 4.3/4.3
Thesis: Fast Preprocessing for Optimal Orthogonal Range Reporting and Range Successor with Applications to Text Indexing
- Jan 2018 – August 2018  **M.A.Sc. Applied Computer Science, Dalhousie University, Canada**
GPA: 4.15/4.3
Note: Transferred to M.Sc. in September 2018
- Sept 2008 – June 2012  **B.Eng. Software Engineering, Dalian University of Technology, China**
GPA: 83/100



Fields of Interest:

Computational Geometry, Data Structures and Algorithms, Distributed Algorithms, Pattern Matching

Employment History


- Sep 2024 – Present  **Postdoctoral Researcher** University of Milano-Bicocca, Italy
Supervisors: *Prof. Paola Bonizzoni* and *Prof. Gianluca Della Vedova*
- Oct 2023 – Aug 2024  **Postdoctoral Researcher** Université du Québec en Outaouais (UQO), Canada
Supervisor: *Prof. Andrzej Pelc*
- Jan 2015 – June 2017  **Network Technology Engineer** Huawei Technologies Co., Ltd.
Mexico City, Mexico/Cairo, Egypt/Douala, Cameroon
- July 2012 – Dec 2014  **Java Developer** Huawei Technologies Co., Ltd., Shenzhen, China

Submissions

-  **On Approximate Colored Path Counting**
An extended version of the paper published on LATIN2024
Younan Gao, Meng He, and Gonzalo Navarro
-  **Leader Election for Anonymous Mobile Agents with Footprints**
Younan Gao and Andrzej Pelc

Research Publications

Journal Articles

- 1 Gao, Y., & Pelc, A. (2025, to appear). Gathering teams of bounded memory agents on a line. *Distributed Computing*.
- 2 Gao, Y., & Pelc, A. (2025). Sniffing helps to meet: Deterministic rendezvous of anonymous agents in the grid. *Theor. Comput. Sci.*, 1050, 115395.  doi:10.1016/J.TCS.2025.115395

Conference Proceedings

- 1 Gao, Y., & He, M. (2024). On approximate colored path counting. In *Proceedings of the 16th Latin American Theoretical Informatics Symposium (LATIN)*. [doi:10.1007/978-3-031-55598-5_14](https://doi.org/10.1007/978-3-031-55598-5_14)
- 2 Gao, Y., & Pelc, A. (2024). Gathering teams of deterministic finite automata on a line. In S. Bonomi, L. Galletta, E. Rivi re, & V. Schiavoni (Eds.), *Proceedings of the 28th International Conference on Principles of Distributed Systems (OPODIS)* (Vol. 324, 11:1–11:17). [doi:10.4230/LIPICS.OPODIS.2024.11](https://doi.org/10.4230/LIPICS.OPODIS.2024.11)
- 3 Gao, Y. (2023). Adaptive data structures for 2d dominance colored range counting. In *Proceedings of the 18th International Algorithms and Data Structures Symposium (WADS)*, **publishing in a special issue**. [doi:10.1007/978-3-031-38906-1_30](https://doi.org/10.1007/978-3-031-38906-1_30)
- 4 Gao, Y. (2022). Computing matching statistics on repetitive texts. In *Proceedings of the 32nd Data Compression Conference, (DCC)*. [doi:10.1109/DCC52660.2022.00015](https://doi.org/10.1109/DCC52660.2022.00015)
- 5 Gao, Y., & He, M. (2022). Faster path queries in colored trees via sparse matrix multiplication and min-plus product. In *Proceedings of the 30th Annual European Symposium on algorithms (ESA)*, **Accepted Rate: 31.8%** (59:1–59:15). [doi:10.4230/LIPIcs.ESA.2022.59](https://doi.org/10.4230/LIPIcs.ESA.2022.59)
- 6 Gao, Y., & He, M. (2021). Space efficient two-dimensional orthogonal colored range counting. In *Proceedings of the 29th Annual European Symposium on Algorithms (ESA)*, **Accepted Rate: 24.8%** (46:1–46:17). [doi:10.4230/LIPIcs.ESA.2021.46](https://doi.org/10.4230/LIPIcs.ESA.2021.46)
- 7 Gao, Y., He, M., & Nekrich, Y. (2020). Fast preprocessing for optimal orthogonal range reporting and range successor with applications to text indexing. In *Proceedings of the 28th Annual European Symposium on Algorithms (ESA)*, **Accepted Rate: 26.7%** (54:1–54:18). [doi:10.4230/LIPIcs.ESA.2020.54](https://doi.org/10.4230/LIPIcs.ESA.2020.54)

Talks

- **Gathering Teams of Deterministic Finite Automata on a Line**
The 28th International Conference on Principles of Distributed Systems, Lucca, Italy
Slides: https://web.cs.dal.ca/~younan/publications/opodis_presentation
- **Adaptive Data Structures for 2D Dominance Colored Range Counting**
The 18th Algorithms and Data Structures Symposium, WADS 2023, Montreal, Canada
Slides: https://web.cs.dal.ca/~younan/publications/wads_slides_2023
- **Faster Path Queries in Colored Trees via Sparse Matrix Multiplication and Min-Plus Product**
European Symposium on Algorithms, ESA 2022, Online
Video: <https://www.youtube.com/watch?v=Hd7KTmeNPiM>
- **Computing Matching Statistics on Repetitive Texts**
Data Compression Conference, DCC 2022, Online
Video: <https://www.youtube.com/watch?v=mtsDq5hyBLU>
- **Space Efficient Two-Dimensional Orthogonal Colored Range Counting**
European Symposium on Algorithms, ESA 2021, Online
Video: <https://www.youtube.com/watch?v=yG0jgFmhXSs>
- **Fast Preprocessing for Optimal Orthogonal Range Reporting and Range Successor with Applications to Text Indexing**
European Symposium on Algorithms, ESA 2020, Online
Video: <https://www.youtube.com/watch?v=NElhHxCCYkg&t=228s>

Marker/Teaching Assistant

- **CSCI 6057/4117: Advanced Data Structures**
Winter 2021, Winter 2022

Marker/Teaching Assistant (continued)

- CSCI 3110: Design and Analysis of Algorithms
Summer 2019, Fall 2019, Fall 2020, Summer 2021, Fall 2021, and Fall 2022
- CSCI 2110: Data Structures and Algorithms
Winter 2022

Professional Service

- Subreviewers for CCCG2021 and SPIRE2022
- Organizers for CCCG2021, WADS2021, CPM2025

Skills

- Coding ■ Java, C/C++, PHP, Python, SQL, XML, \LaTeX , ...
- Databases ■ MySQL.
- Web Dev ■ HTML, CSS, JavaScript, Apache Web Server, Tomcat Web Server.

For references, please contact

- | | |
|--------------------|---|
| Prof. Andrzej Pelc | Position: Professor at Université du Québec en Outaouais
Email: pelc@uqo.ca |
| Prof. Meng He | Position: Professor at Dalhousie University
Email: mhe@cs.dal.ca |
| Prof. Travis Gagie | Position: Associate Professor at Dalhousie University
Email: travis.gagie@dal.ca |