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
- **Gathering teams of Deterministic Finite Automata on a Line**
  An extended version of the paper published on OPODIS2024
  Younan Gao and Andrzej Pelc
- **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). Sniffing helps to meet: Deterministic rendezvous of anonymous agents in the grid. *Theor. Comput. Sci.*

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
2. Gao, Y., & Pelc, A. (2024). Gathering teams of deterministic finite automata on a line. In S. Bonomi, L. Galletta, E. Rivière, & 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
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
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
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
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
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

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=yGOjgFmhXSs
- **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