



Colegio de San Juan de Letran
Dominican Avenue, Abucay, Bataan
Library and Media Services

RESEARCH GUIDE: DATA STRUCTURES AND ALGORITHM

TABLE OF CONTENTS

I. Scope Note

II. Search Aids

III. Information Resources

A. Library Resources

a. E-Journals

b. E-Theses

B. Open Access

a. Free E-Books

b. Free E-Journals

c. Free E-Theses

C. Professional Organizations

D. Other Related Web Portals

E. Related Research Guides

IV. Tutorials

RESEARCH GUIDES

DATA STRUCTURES AND ALGORITHM

I. SCOPE NOTE

It covers the standards data representation and algorithms to solve the problem efficiently. It covers stacks, queues, trees, graphs, maps, and sets. ched.gov.ph

II. SEARCH AIDS (BT: Broader Term, RT: Related Term, NT: Narrow Term)

BT:

- Structures and Algorithm

RT:

- Structured Data
- Data Formats
- Data Terminal
- Structure of Data
- Methods
- Computer Science
- Programming
- Software

NT:

- Structure of Data
- Computer Science and Algorithms
- Computer Science and Software

III. INFORMATION RESOURCES

A. LIBRARY RESOURCES

Note: For the appropriate access credentials, please contact the Letran Bataan Library

➤ E-JOURNALS

- Information Technology Newsweekly.
https://search.proquest.com/publication/publications_38364
- Computer, Networks and Communication.
https://search.proquest.com/publication/publications_38408
- Journal of Robotics and Machine Learning.
https://search.proquest.com/publication/publications_38615
- SIAM Journal on Computing.
https://search.proquest.com/publication/publications_666313

➤ E-THESES

- Zhu, K. (2021). Algorithmic advances in genomic data compression, indexing and secure querying (Order No. 28489977). Available from ProQuest Central. (2531531499). Retrieved from <https://www.proquest.com/dissertations-theses/algorithmic-advances-genomic-data-compression/docview/2531531499/se-2?accountid=190548>
- Varma, R. A. (2020). Exploiting structure in data: Sampling and signal processing on graphs (Order No. 27739115). Available from ProQuest Central. (2381675250). Retrieved from <https://www.proquest.com/dissertations-theses/exploiting-structure-data-sampling-signal/docview/2381675250/se-2?accountid=190548>
- Khandelwal, A. (2019). Queries on compressed data (Order No. 27542792). Available from ProQuest Central. (2387991067). Retrieved from <https://www.proquest.com/dissertations-theses/queries-on-compressed-data/docview/2387991067/se-2?accountid=190548>
- Sather, O. D. (2018). Creating systems of information and data structure in non-profit performing arts management (Order No. 10751940). Available from ProQuest Central. (2042959056). Retrieved from <https://www.proquest.com/dissertations-theses/creating-systems-information-data-structure-non/docview/2042959056/se-2?accountid=190548>
- Oropallo, W. E., Jr. (2018). A point cloud approach to object slicing for 3D printing (Order No. 10751757). Available from ProQuest Central. (2050050481). Retrieved from <https://www.proquest.com/dissertations-theses/point-cloud-approach-object-slicing-3d-printing/docview/2050050481/se-2?accountid=190548>
- Jeon, S. Y. (2017). Do data structures matter? A simulation study for testing the validity of age-period-cohort models (Order No. 10288691). Available from ProQuest Central. (1916808440). Retrieved from <https://www.proquest.com/dissertations-theses/do-data-structures-matter-simulation-study/docview/1916808440/se-2?accountid=190548>
- Schoettler, M. R. (2017). A publish-subscribe framework for embedded systems: Simplifying the development process (Order No. 10604640). Available from ProQuest Central. (1951780031). Retrieved from <https://www.proquest.com/dissertations-theses/publish-subscribe-framework-embedded-systems/docview/1951780031/se-2?accountid=190548>
- Obiedat, M. (2015). Incrementally sorted lattice data structures (Order No. 3732474). Available from ProQuest Central. (1729122282). <https://search.proquest.com/docview/1729122282>
- Triplett, J. (2012). Relativistic causal ordering a memory model for scalable concurrent data structures (Order No. 3502650). Available from ProQuest Central. (965593183). <https://search.proquest.com/docview/965593183>
- Ishaque, S. M. M. (2010). Geometric data structures (Order No. 3427478). Available from ProQuest Central. (814734467). <https://search.proquest.com/docview/814734467>
- Butts, R. O. (2015). Heterogeneous construction of spatial data structures (Order No. 1588178). Available from ProQuest Central. (1682246096). <https://search.proquest.com/docview/1682246096>
- Mbindi, E. N. F. (2015). Building and evaluating a learning environment for algorithm and data structures courses (Order No. 10595292). Available from ProQuest Central. (1898766058). <https://search.proquest.com/docview/1898766058>

B. OPEN ACCESS

➤ FREE E-BOOKS

- Stephens, Rod (2019). Essential Algorithms: A Practical Approach to Computer Algorithms Using Python and C#. Indianapolis, IN: John Wiley & Sons Inc. <https://www.pdfdrive.com/essential-algorithms-a-practical-approach-to-computer-algorithms-using-python-and-c-e191722735.html>
- Roughgarden, (2018). Algorithms Illuminated. Part 2: Graph Algorithms and Data Structures. San Francisco, CA: Sound like yourself Publishing. <https://www.pdfdrive.com/algorithms-illuminated-part-2-graph-algorithms-and-data-structures-e158470397.html>
- Roughgarden, (2017). Algorithms Illuminated. Part 1: The Basics. San Francisco, CA: Sound like yourself Publishing. <https://www.pdfdrive.com/algorithms-illuminated-part-1-the-basics-e158398682.html>
- Karumanchi, Narasimha. (2017). Data Structures and Algorithms Made Easy: Data Structures and Algorithmic Puzzles (5th ed.). Bombay: Career Monk Publications <https://www.pdfdrive.com/data-structures-and-algorithms-made-easy-data-structures-and-algorithmic-puzzles-d158226594.html>
- Jain, Hemant (2017). Problem Solving in Data Structures Algorithms Using C. Bhopal, India: Hemant Jain. <https://www.pdfdrive.com/problem-solving-in-data-structures-algorithms-using-c-d55295957.html>
- Thareja, Reema (2014). Data-Structures-Using-C (2nd ed.). India: Oxford University Press. <https://www.pdfdrive.com/data-structures-using-c-e191365658.html>
- Srivastava, S.K., Srivastava, Deepali (n.d.). Data Structures and Algorithms Using C in Depth (2nd rev. and updated ed.). s.l.: BPB Publications. <https://www.pdfdrive.com/data-structures-and-algorithms-using-c-e187885440.html>
- Bae, Sammie. (2019). JavaScript Data Structures and Algorithms An Introduction to Understanding and Implementing Core Data Structure and Algorithm Fundamentals. Canada: Apress. <https://www.pdfdrive.com/javascript-data-structures-and-algorithms-an-introduction-to-understanding-and-implementing-core-data-structure-and-algorithm-fundamentals-d187879077.html>
- Tutorial Point. (2016). Data Structures and Algorithm. India: Tutorial Point Simply Easy Learning. <https://www.pdfdrive.com/data-structures-algorithms-d18719638.html>
- Goodrich, Michael T. (2013). Data Structures and Algorithms in Python. New Jersey:John Wiley & Sons. <https://www.pdfdrive.com/data-structures-algorithms-and-applications-in-c-d30675196.html>
- Sanhi, Sartaj. (2005). Data Structures, Algorithms and Application in C++, 2nd edition. India: Universities Press. <https://www.pdfdrive.com/data-structures-and-algorithms-in-python-d25119593.html>

➤ FREE E-JOURNALS

- MDPI Journal. <https://www.mdpi.com/journal/algorithms>
- Algorithmica. <https://www.springer.com/journal/453/>
- Journal of Algorithm and Computational Technology. <https://journals.sagepub.com/home/act>

- Data Structures and Algorithm.
https://www.academia.edu/Documents/in/Datastructures_and_Algorithms

➤ **FREE E-THESES**

- Helsene, A. P. (2020). Vertical data structures and computation of sliding window averages in two-dimensional data. (Thesis). North Dakota State University. Retrieved from <http://hdl.handle.net/10365/31823>
- Gu, S. (2020). Scalable Dynamic Big Data Geovisualization With Spatial Data Structure. (Thesis). Purdue University. Retrieved from <http://hdl.handle.net/10.25394/pgs.12213344.v1>
- Casana Eslava, R. (2019). Identification of data structure with machine learning: from Fisher to Bayesian networks. (Doctoral Dissertation). Liverpool John Moores University. Retrieved from <https://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.778564>
- Rouse, K. M. Z. (2018). On the efficiency of algorithms for tensor decompositions and their applications. (Thesis). Wake Forest University. Retrieved from <http://hdl.handle.net/10339/90764>
- Hunt, K. (2018). A comparison of exact string search algorithms for deep packet inspection. (Thesis). Rhodes University. Retrieved from <http://hdl.handle.net/10962/60629>
- El-Zein, H. (2018). Space efficient data structures and algorithms in the Word-RAM model. (Thesis). University of Waterloo. Retrieved from <http://hdl.handle.net/10012/13200>
- Schiesari, P. (2017). Implementation of distributed partitioning algorithms using mobile Wheelphones. (Thesis). Università degli Studi di Padova. Retrieved from http://tesi.cab.unipd.it/54596/1/pietro_schiesari_tesi.pdf
- Chen, W. (2017). Distributed Data Streaming Algorithms for Network Anomaly Detection. (Thesis). Iowa State University. Retrieved from <https://lib.dr.iastate.edu/etd/15278>
- Shabanah, S. S. (2010). Simplifying algorithm learning using serious games. (Thesis). George Mason University. <https://www.proquest.com/dissertations-theses/simplifying-algorithm-learning-using-serious/docview/288230419/se-2?accountid=190548>
- Johnson, S. (2011). A Smoothing Algorithm for the Dual Marching Tetrahedra Method. (Master's Thesis). Arizona State University. <http://repository.asu.edu/items/14450>
- Kuhn, J. A. (2011). Grouper: A Packet Classification Algorithm Allowing Time-Space Tradeoffs. (Thesis). University of South Florida. <https://scholarcommons.usf.edu/etd/3192>
- Poyias, A. (2018). Engineering compact dynamic data structures and in-memory data mining. (Doctoral Dissertation). University of Leicester. <https://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.745834>
- Jarvis, K. J. (2011). Transactional data structures. (Doctoral Dissertation). University of Manchester. [https://www.research.manchester.ac.uk/portal/en/theses/transactional-data-structures\(7060eaec-7dbd-4d5a-be1a-a753d9aa32d5\).html](https://www.research.manchester.ac.uk/portal/en/theses/transactional-data-structures(7060eaec-7dbd-4d5a-be1a-a753d9aa32d5).html)
- Kempa, D. (2015). Efficient Construction of Fundamental Data Structures in Large-Scale Text Indexing. (Doctoral Dissertation). University of Helsinki. Retrieved from <http://hdl.handle.net/10138/156516>

C. PROFESSIONAL ORGANIZATIONS

- Computer Professional for Social Responsibility. <http://cpsr.org/>
- Association of Software Professionals. <https://asp-software.org/www/>
- Association for Computing Machinery. <https://www.acm.org/>
- Association for Information Technology Professionals.
<https://www.baylor.edu/business/mis/index.php?id=92998>
- Association of Independent Information Professionals (AIIP). <https://www.aiip.org/>
- IEEE Computer Society. <https://www.computer.org/membership>

D. OTHER RELATED WEB PORTALS

- InformationWeek News Connects The Business Technology Community.
<https://www.informationweek.com/>
- Info World. <https://www.infoworld.com/>
- Computer Weekly. <https://www.computerweekly.com/news>
- Fingent. <https://www.fingent.com/blog/>
- Tech Republic. <https://www.techrepublic.com/>
- Reddit. <https://www.reddit.com/r/InformationTechnology/>
- Elligense. <https://medium.com/elligense-team>
- Tech Community. <https://techcommunity.microsoft.com/t5/itops-talk/ct-p/ITOpsTalk>

E. RELATED RESEARCH GUIDES

- Oakland University Research Guide.
<https://research.library.oakland.edu/sp/subjects/guide.php?subject=CSE5610>
- University of Minnesota Library Research Guide. <https://libguides.umn.edu/CSCI/1933>
- HPU Library Research Guides. <https://hpu.libguides.com/computerscience/algorithms>
- George Brown College Library Research Guide.
<https://researchguides.georgebrown.ca/c.php?g=560936&p=3874543>

IV. TUTORIALS

- Data Structures & Algorithms #1. What Are Data Structures.
https://www.youtube.com/watch?v=bum_19loj9A
- Data Structures Easy to Advanced Course – Full Tutorial from a Google Engineer.
<https://www.youtube.com/watch?v=RBSGKI AvoiM>
- Data Structures and Algorithms. What Are Data Structures.
<https://www.youtube.com/watch?v=lf641tPkM4>
- Introduction to Algorithm. Algorithm vs Program Tagalog.
<https://www.youtube.com/watch?v=MAwjavgol2Q>
- Introduction to Data Structures.
<https://www.youtube.com/watch?v=xLetJpcjHS0&list=PLBlnK6fEygRj9lId8sWIUNwIKfdUoPd1Y>
- Data Types and Abstract Data Types.
<https://www.youtube.com/watch?v=ZniDyolzrBw&list=PLBlnK6fEygRj9lId8sWIUNwIKfdUoPd1Y&index=2>
- Types of Data Structures.

https://www.youtube.com/watch?v=T9DSBhBR_I4&list=PLBlNk6fEyqRj9Ild8sWIUNwKfdUoPd1Y&index=4

- Intellipaat. <https://intellipaat.com/blog/>
- Galido Networks. <https://galido.net/blog/best-freelancing-websites-to-get-remote-work-in-2020/>
- ZD Net. <https://www.zdnet.com/>
- Paessler. <https://blog.paessler.com/>
- Value Coders. <https://www.valuecoders.com/blog/>

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