

John Paparrizos

ASSISTANT PROFESSOR · THE OHIO STATE UNIVERSITY, COLUMBUS, OH, USA
DIRECTOR · THE DATA ANALYTICS, UNDERSTANDING, MINING, AND MANAGEMENT (DATUM) LAB

✉ john@paparrizos.org | 🏠 www.paparrizos.org | 📧 johnpaparrizos | 🌐 johnpaparrizos | 🐦 @thedatumorg | 🏠 Google Scholar

Research Interests

DATA ANALYTICS · DATA MANAGEMENT · DATA MINING · DATA SCIENCE · APPLIED MACHINE LEARNING · TIME-SERIES ANALYSIS

My research enables the next generation of **data-intensive and machine-learning applications**. My work addresses the lack of **task-aware and data-driven adaptations** for managing and analyzing structured and unstructured data, such as relational, time-series, multimedia, text, graphs, Web, and IoT data. My adaptative solutions, from compression, representation, and indexing to computational methods, exploit data similarities, densities, shapes, and distributions, and lead to significant effectiveness and performance gains for large-scale data science applications.

Education

Columbia University

PH.D. IN COMPUTER SCIENCE, GPA: 4.14/4.00 (ADVISOR: LUIS GRAVANO)

- Thesis: "Fast, Scalable, and Accurate Algorithms for Time-Series Analysis"
- 🏆 2019 ACM SIGKDD Doctoral Dissertation Award, Honorable Mention

New York, NY, USA

October, 2018

Columbia University

M.PHIL. IN COMPUTER SCIENCE, GPA: 4.14/4.00 (ADVISOR: LUIS GRAVANO)

New York, NY, USA

May, 2015

École Polytechnique Fédérale de Lausanne (EPFL)

M.S. IN COMPUTER SCIENCE, "EXCELLENT" DISTINCTION (ADVISOR: KARL ABERER)

Lausanne, Switzerland

October, 2011

Aristotle University of Thessaloniki (AUTH)

B.S. IN COMPUTER SCIENCE, "EXCELLENT" DISTINCTION & SALUTATORIAN (ADVISOR: ATHENA VAKALI)

Thessaloniki, Greece

July, 2009

University Experience

The Ohio State University (OSU)

ASSISTANT PROFESSOR, DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

DIRECTOR, THE DATA ANALYTICS, UNDERSTANDING, MINING, AND MANAGEMENT (DATUM) LAB

Columbus, OH, USA

2022 - Present

2022 - Present

University of Chicago

POSTDOCTORAL RESEARCHER, DEPARTMENT OF COMPUTER SCIENCE (ADVISORS: MICHAEL FRANKLIN AND AARON ELMORE)

Chicago, IL, USA

2018 - 2022

Columbia University

GRADUATE RESEARCH ASSISTANT, DEPARTMENT OF COMPUTER SCIENCE (ADVISOR: LUIS GRAVANO)

New York, NY, USA

2012 - 2018

École Polytechnique Fédérale de Lausanne (EPFL)

RESEARCH ASSISTANT, SCHOOL OF COMPUTER AND COMMUNICATION SCIENCES (ADVISOR: KARL ABERER)

Lausanne, Switzerland

2009 - 2011

Awards, Honors, Achievements, and Fellowships

AWARDS, HONORS, AND ACHIEVEMENTS

IEEE TCDE Rising Star Award

- 2023 The IEEE Technical Committee on Data Engineering (TCDE) recognizes internationally an individual's work in the first five years after the Ph.D. degree. Citation: "For breakthroughs in time series data management, as well as contributions to adaptive methodologies for data intensive and machine learning applications."

IEEE TCDE

"Best Reviewer" Award

- 2023 The ACM Special Interest Group on Knowledge Discovery and Data Mining (SIGKDD) recognizes reviewers of the main research track of ACM SIGKDD 2023 for "their very hard and conscientious work." (30 out of 1411)

ACM SIGKDD

ACM SIGKDD Doctoral Dissertation Award, Honorable Mention

- 2019 The ACM Special Interest Group on Knowledge Discovery and Data Mining (SIGKDD) recognizes "outstanding doctoral dissertations in the areas of data science, machine learning, and data mining" internationally.

ACM SIGKDD

NetApp Faculty Award

- 2018 Recognizes faculty "pursuing cutting-edge research in data management." First time awarded to a postdoc.

NetApp

Front page of The New York Times covers research on (first-authored) [L5]

- 2016 Media coverage of our study on building a screening solution for devastating diseases using Web search logs.

The New York Times

2016	ISSI “Paper of the Year” Award Finalist for [L4] The International Society for Scientometrics and Informetrics (ISSI) recognizes “high quality research in the field of Scientometrics and Informetrics.” In the ten finalists, voted among publications from 2014 to 2016.	ISSI Society
2016	ACM SIGMOD Research Highlight Award for (first-authored) [L1] The ACM Special Interest Group on Management of Data (SIGMOD) recognizes projects across premier database conferences that “exemplify core database research, address an important problem, represent a definitive milestone in solving the problem, and have the potential of significant impact.”	ACM SIGMOD
2015	“Best of ACM SIGMOD” for (first-authored) [L1] Our paper was one of the two best papers of ACM SIGMOD International Conference on Management of Data.	ACM SIGMOD

FELLOWSHIPS AND SCHOLARSHIPS

2016	Paul Nichoplas Scholarship, Columbia University Recognizes graduate or undergraduate students of Greek ancestry. Covers stipend and tuition expenses.
2014	Alexander S. Onassis Foundation Fellowship (3 Ph.D. fellows in computer science out of 1000+ submissions in all areas.) Recognizes Greek graduate students with outstanding academic record.
2013	Empirikion Foundation Scholarship (acceptance rate ~10%) Recognizes Greek scholars in Medicine, Physics, Chemistry, Biology, Mathematics, Computer Science, and Engineering areas.
2012	Gerondelis Scholarship Recognizes students of Greek ancestry ranked at the top of their class.
2011	A. G. Leventis Foundation Fellowship (acceptance rate ~10%) Recognizes Greek graduate students in Social Sciences, Technology, Arts, Natural Sciences, Medical, and Business fields.
2010	Zeno Karl Schindler Foundation Scholarship Supports “cutting-edge research in the fields of engineering.”
2009	The General Michael Arnaoutis Foundation Scholarship (acceptance rate ~10%) Recognizes top Greek undergraduate students in Computer Science and Engineering fields for post-graduate studies abroad.

Industry Experience

Microsoft Research RESEARCH INTERN (MENTORS: ERIC HORVITZ , RYEN WHITE , AND FERNANDO DIAZ)	Redmond, WA, USA Summer 2014 & 2015
Yahoo! Research Labs RESEARCH INTERN (MENTOR: ARIS GIONIS)	Barcelona, Spain 2011
Logitech PROJECT MANAGEMENT INTERN (MENTOR: VP OF PRODUCT MARKETING, DENIS PAVILLARD)	Lausanne, Switzerland 2010

Visiting Positions

Université Paris Cité VISITING PROFESSOR, DEPARTMENT OF COMPUTER SCIENCE (HOST: THEMIS PALPANAS)	Paris, France December 2022
University of Illinois, Urbana-Champaign (UIUC) VISITING SCHOLAR, DEPARTMENT OF COMPUTER SCIENCE (HOST: JIawei Han)	Champaign, IL, USA Summer 2010

Funding and Gifts

2023	Cisco Systems , Unrestricted Research Gift; Sole PI	\$ 100,000
2022	Meta Platforms , Unrestricted Research Gift; Sole PI	\$ 50,000
2020	Exelon Utilties , Unrestricted Research Gift; Sole PI	\$ 150,000
2019	Cisco Systems , Unrestricted Research Gift; Sole PI	\$ 73,000
2018	NetApp , Unrestricted Research Gift; Sole PI	\$ 50,000

Invited Talks

CONFERENCES

2023	Executive Lunch, IEEE International Conference on Data Engineering (IEEE ICDE 2023)	Anaheim, CA, USA
2019	Awards Session, ACM SIGKDD Conference on Knowledge Discovery and Data Mining (ACM SIGKDD 2019)	Anchorage, AK, USA

UNIVERSITIES & INDUSTRY


2023	Translational Data Analytics Institute, The Ohio State University	Columbus, OH, USA
2023	Department of Computer Science and Engineering, The Ohio State University	Columbus, OH, USA
2023	Amazon	Luxembourg, Luxembourg
2023	Cisco Systems	San Jose, CA, USA

2022	Computer Science Department, Université Paris Cité	Paris, France
2022	School of Informatics, Aristotle University of Thessaloniki	Thessaloniki, Greece
2022	Stern School of Business, New York University	New York, NY, USA
2022	Department of Computer Science and Engineering, The Ohio State University	Columbus, OH, USA
2022	School of Computer and Communication Sciences, École Polytechnique Fédérale de Lausanne	Lausanne, Switzerland
2022	Department of Computer Science and Engineering, University of California, San Diego	La Jolla, CA, USA
2022	Halicioğlu Data Science Institute, University of California, San Diego	La Jolla, CA, USA
2022	Centre National de la Recherche Scientifique (CNRS)	Paris, France
2022	Computer Science Department, Columbia University	New York, NY, USA
2022	Department of Computer and Information Science, University of Pennsylvania	Philadelphia, PA, USA
2022	Khoury College of Computer Sciences, Northeastern University	Boston, MA, USA
2022	Department of Computer Science, University of Illinois, Chicago	Chicago, IL, USA
2022	Computer Science Department, New York University	New York, NY, USA
2022	Department of Electrical and Computer Engineering, University of Southern California	Los Angeles, CA, USA
2021	Computer Science Department, Columbia University	New York, NY, USA
2021	School of Computer Science, Mohammed VI Polytechnic University	Ben Guerir, Morocco
2020	Computer Science Department, Columbia University	New York, NY, USA
2019	Department of Computer Science, University of Chicago	Chicago, IL, USA
2019	Department of Computer Science, Boston University	Boston, MA, USA
2018	Department of Computer Science, University of Chicago	Chicago, IL, USA
2017	Computer Science Department, Stanford University	Stanford, CA, USA

Publications

PAPERS (REGULAR/LONG) IN REFEREED JOURNALS AND CONFERENCES

Proc. VLDB 2023	“Accelerating Similarity Search for Elastic Measures: A Study and New Generalization of Lower Bounding Distances”	[L20]
<i>Journal</i>	JOHN PAPARRIZOS , KAIZE WU, AARON ELMORE, CHRISTOS FALOUTSOS, AND MICHAEL J. FRANKLIN <i>Proceedings of the VLDB Endowment (PVLDB 2023) Journal, Volume 16, pages 2019-2032</i>	
Proc. VLDB 2023	“Choose Wisely: An Extensive Evaluation of Model Selection for Anomaly Detection in Time Series”	[L19]
<i>Journal</i>	EMMANOUIL SYLLIGARDOS, PAUL BONIOL, JOHN PAPARRIZOS , PANOS TRAHANIAS, AND THEMIS PALPANAS <i>Proceedings of the VLDB Endowment (PVLDB 2023) Journal, Volume 16, pages 3418-3432</i>	
UbiComp 2023	“AMIR: Active Multimodal Interaction Recognition from Video and Network Traffic in Connected Environments”	[L18]
<i>Conference</i>	SHINAN LIU, TARUN MANGLA, TED SHAOWANG, JINJIN ZHAO, JOHN PAPARRIZOS , SANJAY KRISHNAN, AND NICK FEAMSTER <i>ACM International Joint Conference on Pervasive and Ubiquitous Computing (ACM UbiComp 2023), pages 1-26</i>	
Proc. VLDB 2022	“Volume Under the Surface: A New Accuracy Evaluation Measure for Time-Series Anomaly Detection”	[L17]
<i>Journal</i>	JOHN PAPARRIZOS , PAUL BONIOL, THEMIS PALPANAS, RUEY S. TSAY, AARON ELMORE, AND MICHAEL J. FRANKLIN <i>Proceedings of the VLDB Endowment (PVLDB 2022) Journal, Volume 15, pages 2774-2787</i>	
Proc. VLDB 2022	“TSB-UAD: An End-to-End Benchmark Suite for Univariate Time-Series Anomaly Detection”	[L16]
<i>Journal</i>	JOHN PAPARRIZOS , YUHAO KANG, PAUL BONIOL, RUEY S. TSAY, THEMIS PALPANAS, AND MICHAEL J. FRANKLIN <i>Proceedings of the VLDB Endowment (PVLDB 2022) Journal, Volume 15, pages 1697-1711</i>	
ICDE 2022	“Fast Adaptive Similarity Search through Variance-Aware Quantization”	[L15]
<i>Conference</i>	JOHN PAPARRIZOS , IKRADUYA EDIAN, CHUNWEI LIU, AARON ELMORE, AND MICHAEL J. FRANKLIN <i>38th IEEE Int. Conference on Data Engineering (IEEE ICDE 2022), pages 2969-2983</i>	
CIDR 2021	“VergeDB: A Database for IoT Analytics on Edge Devices”	[L14]
<i>Conference</i>	JOHN PAPARRIZOS , CHUNWEI LIU, BRUNO BARBARIOLI, JOHNNY HWANG, IKRADUYA EDIAN, AARON ELMORE, ET AL. <i>11th Conference on Innovative Data Systems Research (CIDR 2021), pages 1-8</i>	
SIGMOD 2021	“Good to the Last Bit: Data-Driven Encoding with CodecDB”	[L13]
<i>Conference</i>	HAO JIANG, CHUNWEI LIU, JOHN PAPARRIZOS , ANDREW CHIEN, JIHONG MA, AND AARON ELMORE <i>2021 ACM SIGMOD Int. Conference on Management of Data (ACM SIGMOD 2021), pages 843-856</i>	
Proc. VLDB 2021	“Decomposed Bounded Floats for Fast Compression and Queries”	[L12]
<i>Journal</i>	CHUNWEI LIU, HAO JIANG, JOHN PAPARRIZOS , AND AARON ELMORE <i>Proceedings of the VLDB Endowment (PVLDB 2021) Journal, Volume 14, pages 2586-2598</i>	

Proc. VLDB 2021 <i>Journal</i>	“SAND: Streaming Subsequence Anomaly Detection” PAUL BONIOL, JOHN PAPARRIZOS , THEMIS PALPANAS, AND MICHAEL FRANKLIN <i>Proceedings of the VLDB Endowment (PVLDB 2021) Journal, Volume 14, pages 1717-1729</i>	[L11]
SIGMOD 2020 <i>Conference</i>	“Debunking Four Long-Standing Perceptions in Time-Series Analytics” JOHN PAPARRIZOS , CHUNWEI LIU, AARON ELMORE, AND MICHAEL FRANKLIN <i>2020 ACM SIGMOD Int. Conference on Management of Data (ACM SIGMOD 2020), pages 1887-1905</i>	[L10]
Proc. VLDB 2020 <i>Journal</i>	“PIDS: Attribute Decomposition for Improved Compression and Query Performance in Columnar Storage” HAO JIANG, CHUNWEI LIU, QI JIN, JOHN PAPARRIZOS AND AARON ELMORE <i>Proceedings of the VLDB Endowment (VLDB 2020) Journal, Volume 13, pages 925-938</i>	[L9]
Proc. VLDB 2019 <i>Journal</i>	“GRAIL: Efficient Time-Series Representation Learning” JOHN PAPARRIZOS AND MICHAEL FRANKLIN <i>Proceedings of the VLDB Endowment (VLDB 2019) Journal, Volume 12, pages 1762-1777</i>	[L8]
ICML 2019 <i>Conference</i>	“Band-limited Training and Inference for Convolutional Neural Networks” ADAM DZIEDZIC [‡] , JOHN PAPARRIZOS [‡] , SANJAY KRISHNAN, AARON ELMORE, AND MICHAEL FRANKLIN <i>36th Int. Conference on Machine Learning (ICML 2019), pages 1745-1754 (‡: Equal contribution)</i>	[L7]
TODS 2017 <i>Journal</i>	“Fast and Accurate Time-Series Clustering” JOHN PAPARRIZOS AND LUIS GRAVANO <i>ACM Transactions on Database Systems (ACM TODS 2017) Journal, Volume 42, 49 pages</i>	[L6]
JOP 2016 <i>Journal</i>	“Screening for Pancreatic Adenocarcinoma using Signals from Web Search Logs” JOHN PAPARRIZOS , RYEN W. WHITE, AND ERIC HORVITZ <i>Journal of Oncology Practice (JOP 2016), Volume 12, pages 737-744</i>  COVERED BY THE NEW YORK TIMES, THE WASHINGTON POST, AND OTHER MEDIA OUTLETS	[L5]
JASIST 2016 <i>Journal</i>	“Predicting the impact of scientific concepts using full text features” KATHY MCKEOWN ⁺ , HAL DAUME ⁺ , SNIGDHA CHATURVEDI [‡] , JOHN PAPARRIZOS [‡] , KAPIL THADANI [‡] , ET AL. <i>Journal of the American Society for Information Science and Technology (JASIST 2016), Volume 67, pages 2684-2696</i> +: Lead PIs; ‡: Lead student authors in alphabetical order  ISSI “PAPER OF THE YEAR” AWARD, FINALIST	[L4]
SocInfo 2016 <i>Conference</i>	“The Social Dynamics of Language Chance in Online Networks” RAHUL GOEL, SANDEEP SONI, NAMAN GOYAL, JOHN PAPARRIZOS , HANNA WALLACH, ET AL. <i>8th Int. Conference on Social Informatics (SocInfo 2016), pages 41-57</i>  COVERED BY FAST COMPANY	[L3]
SIGKDD 2016 <i>Conference</i>	“Detecting Devastating Diseases in Search Logs” JOHN PAPARRIZOS , RYEN W. WHITE, AND ERIC HORVITZ <i>2016 ACM SIGKDD Int. Conference on Knowledge Discovery and Data Mining (ACM SIGKDD 2016), pages 559-568</i>	[L2]
SIGMOD 2015 <i>Conference</i>	“k-Shape: Efficient and Accurate Clustering of Time Series” JOHN PAPARRIZOS AND LUIS GRAVANO <i>2015 ACM SIGMOD Int. Conference on Management of Data (ACM SIGMOD 2015), pages 1855-1870</i>  “BEST OF ACM SIGMOD”  ACM SIGMOD RESEARCH HIGHLIGHT AWARD	[L1]

TUTORIALS IN REFEREED JOURNALS AND CONFERENCES

EDBT 2023 <i>Conference</i>	“New Trends in Time Series Anomaly Detection” PAUL BONIOL, JOHN PAPARRIZOS , AND THEMIS PALPANAS <i>International Conference on Extending Database Technology (EDBT 2023), pages 847-850</i>	[T1]
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DEMONSTRATIONS IN REFEREED JOURNALS AND CONFERENCES

Proc. VLDB 2023 <i>Journal</i>	“Odyssey: An Engine Enabling The Time-Series Clustering Journey” JOHN PAPARRIZOS AND TEJA BOGIREDDY <i>Proceedings of the VLDB Endowment (PVLDB 2023) Journal, Demo track, pages 4066-4069</i>	[D4]
Proc. VLDB 2022 <i>Journal</i>	“Theseus: Navigating the Labyrinth of Time-Series Anomaly Detection” PAUL BONIOL, JOHN PAPARRIZOS , YUHAO KANG, THEMIS PALPANAS, RUEY S. TSAY, ET AL. <i>Proceedings of the VLDB Endowment (VLDB 2022) Journal, Demo track, Volume 15, pages 3702-3705</i>	[D3]

Proc. VLDB 2021 “SAND in Action: Subsequence Anomaly Detection for Streams” [D2]
Journal PAUL BONIOL, **JOHN PAPARRIZOS**, THEMIS PALPANAS, AND MICHAEL FRANKLIN
Proceedings of the VLDB Endowment (VLDB 2021) Journal, Demo track, Volume 14, pages 2867-2870

ICDE 2011 “Advanced Search, Visualization, and Tagging of Sensor Metadata” [D1]
Conference **JOHN PAPARRIZOS**, HOYOUNG JEUNG, AND KARL ABERER
27th IEEE Int. Conference on Data Engineering (IEEE ICDE 2011), Demo track, pages 1356-1359

OTHER REFEREED PAPERS (E.G., SHORT OR INVITED PAPERS)

DEB 2023 “Querying Time-Series Data: A Comprehensive Comparison of Distance Measures” [S9]
Journal **JOHN PAPARRIZOS**, CHUNWEI LIU, AARON ELMORE, AND MICHAEL FRANKLIN
IEEE Data Engineering Bulletin (DEB 2023), Volume 47, pages 69-88

PowerTech 2021 “k-ShapeStream: Probabilistic Streaming Clustering for Electric Grid Events” [S8]
Conference MOHINI BARIYA, ALEXANDRA VON MEIER, **JOHN PAPARRIZOS**, AND MICHAEL FRANKLIN
14th IEEE PowerTech Conference (PowerTech 2021), pages 1-6

OSR 2019 “Artificial intelligence in resource-constrained and shared environments” [S7]
Journal SANJAY KRISHNAN, AARON ELMORE, MICHAEL FRANKLIN, **JOHN PAPARRIZOS**, ZECHAO SHANG, ET AL.
ACM SIGOPS Operating Systems Review (OSR 2019), Volume 53, pages 1-6

PROMS 2013 “A tight bound on the worst-case number of comparisons for Floyd’s heap construction algorithm” [S6]
Book Series **JOHN PAPARRIZOS**
Proceedings in Mathematics and Statistics, PROMS 2013, Volume 31, pages 153-162

PROMS 2013 “Homogeneous and non-homogeneous algorithms” [S5]
Book Series **JOHN PAPARRIZOS**
Proceedings in Mathematics and Statistics, PROMS 2013, Volume 31, pages 241-248

RecSys 2011 “Machined Learned Job Recommendation” [S4]
Conference **JOHN PAPARRIZOS**, BERKANT B. CAMBAZOGLU, AND ARISTIDES GIONIS
5th ACM Conference on Recommender Systems (ACM RecSys 2011), pages 325-328

LCN 2011 “Quantitative analysis for authentication of low-cost RFID tags” [S3]
Conference **JOHN PAPARRIZOS**, STYLIANOS BASAGIANNIS, AND SOPHIA PETRIDOU
36th IEEE Conference on Local Computer Networks (IEEE LCN 2011), pages 295-298

SUTC 2010 “Effective Metadata Management in Federated Sensor Networks” [S2]
Conference HOYOUNG JEUNG, SOFIANE SARNI, **JOHN PAPARRIZOS**, SAKET SATHE, KARL ABERER, ET AL.
2010 IEEE Int. Conference on Sensors, Ubiquitous, and Trustworthy Computing (IEEE SUTC 2010), pages 107-114

HT 2010 “Automatic extraction of structure, content and usage data statistics of web sites” [S1]
Conference **JOHN PAPARRIZOS**, VASO KOUTSONIKOLA, LEFTERIS ANGELIS, AND ATHENA VAKALI
21st ACM conference on Hypertext and Hypermedia (ACM HT 2010), pages 301–302

Patents

2021 “Fast Multi-Dimensional Search Based on Variance-Aware Quantization”, **John Paparrizos**, Ikraduya Edian, Chunwei Liu, Aaron Elmore, and Michael J. Franklin. (Application 63/188,332 on 5/2021 - US Patent Office)

Teaching Experience

The Ohio State University

Columbus, OH, USA
 INSTRUCTOR FOR “ADVANCED DATABASE SYSTEMS” COURSE - 43 STUDENTS (INSTRUCTOR OVERALL RATING: 4.4/5.0) Fall 2023
 INSTRUCTOR FOR “INTRODUCTION TO DATA MINING” COURSE - 43 STUDENTS (INSTRUCTOR OVERALL RATING: 4.1/5.0) Fall 2023
 INSTRUCTOR FOR “READINGS IN DATA ANALYTICS” COURSE - 10 STUDENTS (INSTRUCTOR OVERALL RATING: 4.4/5.0) Spring 2023
 INSTRUCTOR FOR “INTRODUCTION TO DATA MINING” COURSE - 56 STUDENTS (INSTRUCTOR OVERALL RATING: 4.4/5.0) Fall 2022

University of Chicago

Chicago, IL, USA
 MENTOR FOR “DATA SCIENCE CLINIC” COURSE Fall 2021 & Winter 2022
 GUEST LECTURER FOR “DATABASES” COURSE (INSTRUCTOR: **AARON ELMORE**) Fall 2019











Boston University

Boston, MA, USA
 GUEST LECTURER FOR “DATA SYSTEMS ARCHITECTURES” COURSE (INSTRUCTOR: **MANOS ATHANASSOULIS**) Spring 2019

Columbia University

New York, NY, USA
 GUEST LECTURER FOR “ADVANCED DATABASE SYSTEMS” COURSE (INSTRUCTOR: **LUIS GRAVANO**) Fall 2015 & 2017, Spring 2020 - 2023
 TEACHING ASSISTANT FOR “ADVANCED DATABASE SYSTEMS” COURSE (TA OVERALL RATING: 5.0/5.0) Fall 2015 & Fall 2017

Software Artifacts and Benchmarks Released

- GLB [L20]**  www.timeseries.org/glb - A library evaluating 11 lower bounding measures spanning 7 elastic measures
- AMIR [L18]**  <https://amir-vidnet.github.io/> - Video and network data for interaction recognition in connected environments
- VUS [L17]**  www.timeseries.org/vus - A new accuracy evaluation measure for time-series anomaly detection
- TSB-UAD [L16]**  www.timeseries.org/tsb-uad - An end-to-end anomaly detection benchmark suite with 12k+ time series
- VAQ [L15]**  <https://github.com/TheDatumOrg/VAQ> - A new product quantization method for fast adaptive similarity search
- BUFF [L12]**  www.timeseries.org/buff - A new fast compression method for floats with support for in-situ analytics
- TSDistEval [L10]**  www.timeseries.org/tsdisteval - A library of 70+ time-series distance measures belonging in five categories
- GRAIL [L8]**  www.timeseries.org/grail - A library for similarity-preserving time-series representation learning
- BL-CNNs [L7]**  www.timeseries.org/bandlimited-cnns - Training and inference with frequency spectra constraints for CNNs
- k-Shape [L1]**  www.timeseries.org/kshape-python - A fast and accurate univariate time-series clustering algorithm

Mentoring Experience

PH.D. STUDENT SUPERVISION

- Ryan DeMilt** The Ohio State University, Ph.D., Jan 2024-now
- Samin Kabir** The Ohio State University, Ph.D., Jan 2024-now
- Suchit Gupta** The Ohio State University, Ph.D., Sept 2023-now
- Haojun Li** The Ohio State University, Ph.D., Sept 2023-now
- Qinghua Liu** The Ohio State University, Ph.D., Sept 2023-now
- Fan Yang** The Ohio State University, Ph.D., Sept 2023-now
- Paul Boniol** University of Paris, Ph.D., 2020-2022 (with **Themis Palpanas**), Next: Researcher at Inria
- Mohini Bariya** University of California, Berkeley, Ph.D., Summer 2020 (with **Alexandra von Meier**), Next: Research Scientist at nLine
- Chunwei Liu** University of Chicago, Ph.D., 2019-2022 (with **Aaron Elmore**), Next: Postdoc at MIT
- Hao Jiang** University of Chicago, Ph.D., 2019-2021 (with **Aaron Elmore**), Next: Postdoc at Harvard University
- Adam Dziedzic** University of Chicago, Ph.D., 2018-2019 (with **Aaron Elmore** & **Sanjay Krishnan**), Next: Postdoc at UToronto

M.S. STUDENT SUPERVISION

- Purvi Gujarathi** The Ohio State University, M.S., 2023-
- Yuhao Kang** University of Chicago, M.S., 2021-2022, Next: Software Engineer at Amazon
- Teja Bogireddy** University of Chicago, M.S., 2020-2021, Next: Data Scientist at Exelon

M.S. COMMITTEES

- Aditya Vadlamani** The Ohio State University, M.S. Thesis, 2023 (Advisor: Srinivasan Parthasarathy)
- Nitin Balaji** The Ohio State University, M.S. Thesis, 2023 (Advisor: Xia Ning)

B.S. STUDENT SUPERVISION

- Will Blanton** The Ohio State University, B.S., 2023-
- Kaize Wu** University of Chicago, B.S., 2021-2023
- Karhan Kayan** University of Chicago, B.S., 2020-2022, Next: Ph.D. student at Princeton University
- Azam Mohsin** University of Chicago, B.S., 2020-2021, Next: Ph.D. student at Stanford University
- Johnny Hwang** University of Chicago, B.S., 2020 (with **Aaron Elmore**), Next: Quantitative Developer at Arrowstreet Capital
- Ikraduya Edian** Bandung Institute of Technology, B.S., 2020-2022 (with **Aaron Elmore**), Next: M.S. at the University of Edinburgh

Leadership, Service, & Extracurricular Activities

PROFESSIONAL MEMBERSHIPS

- Association of Computing Machinery (**ACM**) Lifetime member
- Association for the Advancement of Artificial Intelligence (**AAAI**) Lifetime member
- Institute of Electrical and Electronics Engineers (**IEEE**) Member (since 2022)

ORGANIZATION

- ACM SIGMOD Conference on Management of Data (**SIGMOD**), 2023 Student Research Competition Committee
- ACM SIGMOD Conference on Management of Data (**SIGMOD**), 2022 **Proceedings Chair**
- ACM SIGMOD Conference on Management of Data (**SIGMOD**), 2021-2023 Availability & Reproducibility Committee
- International Conference on Very Large Data Bases (**VLDB**), 2019 "Best Demo" Award Committee

SENIOR PROGRAM COMMITTEE MEMBER

- International Joint Conference on Artificial Intelligence (**IJCAI**) 2020-2021

CONFERENCE PROGRAM COMMITTEE (PC) MEMBER

Databases & Data Analytics

ACM SIGMOD Conference on Management of Data (SIGMOD)	2021, 2023-2025
International Conference on Very Large Data Bases (VLDB)	2019, 2023, 2025
IEEE International Conference on Data Engineering (ICDE)	2019-2020, 2022-2024
IEEE International Conference on Big Data (BigData)	2021-2023
International Conference on Extending Database Technology (EDBT)	2023, 2025

Data Mining

ACM SIGKDD Conference on Knowledge Discovery and Data Mining (SIGKDD)	2023-2024
ACM The Web Conference (WWW)	2024
SIAM International Conference on Data Mining (SDM)	2024

Artificial Intelligence

AAAI Conference on Artificial Intelligence (AAAI)	2022-2024
International Joint Conference on Artificial Intelligence (IJCAI)	2022-2024

Machine Learning

International Conference on Machine Learning (ICML)	2020-2024
Neural Information Processing Systems (NeurIPS)	2021-2023
International Conference on Learning Representations (ICLR)	2021-2024

Workshops

Workshop on Multivariate Time Series Analytics (MuTiSA @ ICDE)	2024
Workshop on AI for Time-Series Analysis (AI4TS @ AAAI or IJCAI)	2022, 2024
Workshop on Mining and Learning from Time Series (MiLeTS @ SIGKDD)	2022-2023
Workshop on Self-Managing Database Systems (SMDB @ ICDE)	2022

INVITED REVIEWER FOR JOURNALS

ACM Transactions on Database Systems (ACM TODS)
IEEE Transactions on Knowledge and Data Engineering (IEEE TKDE)
The Very Large Data Bases Journal (VLDBJ)
ACM Transactions on Internet Technology (ACM TOIT)
Data Mining and Knowledge Discovery (DMKD)
Knowledge and Information Systems (KAIS)
Distributed and Parallel Databases Journal (DAPD)
Pattern Recognition
Artificial Intelligence (AI) Journal
Transactions on Machine Learning Research (TMLR)
IEEE Transactions on Neural Networks and Learning Systems (IEEE TNNSL)
Technometrics
Quantitative Finance
Operations Research Forum
Journal of Information Science
Information Sciences
ACM Transactions on Computing for Healthcare (HEALTH)
Journal of Medical Internet Research (JMIR)
IEEE Journal of Biomedical and Health Informatics (JBHI)
IEEE/CAA Journal of Automatica Sinica
IEEE Access

UNIVERSITY SERVICE

OSU CSE Grad Studies Committee	2023, 2024
OSU CSE D&I Committee	2023, 2024
OSU CSE Graduate Admissions Committee	2022, 2023
OSU Data I/O Hackathon Judge	2022

LEADERSHIP AND OTHER ACTIVITIES

- 2020-2022 **UChicago Match Program**, I participated in internship and advising programs for students from underrepresented, low-income, or first-generation backgrounds. I advised and offered paid research positions to Odyssey Scholars, Empower Scholars, and Metcalf Fellows. *UChicago*
- 2019-2022 **Provost's Office Postdoc Advisory Board**, Communicated issues and coordinated efforts for improving international affairs, diversity initiatives, and entrepreneurship IP conflicts. *UChicago*
- 2019-2022 **PSD Postdoc Representative** at the Physical Sciences Division. *UChicago*
- 2016, 2018 **"CS Service" Awards**, Organized social events and reviewed M.S. applications. *Columbia*
- 2008-2009 **ACM AUTH Student Chapter**, Founder of the chapter (2008) and President from 2008 to 2009. *AUTH*

Selected Press & Media Coverage

- 2020 "Digital Biomarkers Supersede Theranos: No Blood, No Jokes" *Forbes*
- 2018 "Real-world evidence: From activity to impact in healthcare decision making" *McKinsey & Company*
- 2017 "One nation divided by a common language" *Fast Company*
- 2016 "Can you really spot cancer through a search engine?" *MIT Technology Review*
- 2016 "Is it cancer? Diagnosing yourself online is about to get easier" *The Guardian*
- 2016 "What happens when your search engine is first to know you have cancer" *The Washington Post*
- 2016 "Microsoft finds cancer clues in search queries" *The New York Times*

References

- Aaron Elmore* Associate Professor of Computer Science at the **University of Chicago**
- Christos Faloutsos* Fredkin Professor of Computer Science at **Carnegie Mellon University** and an **Amazon Scholar**
- Michael Franklin* Morton D. Hull Professor of Computer Science and Co-Director of the Data Science Institute at the **University of Chicago** (Previously, Thomas M. Siebel Professor and Chair of Computer Science Division at **UC Berkeley**)
- Luis Gravano* Professor of Computer Science at **Columbia University**
- Themis Palpanas* Senior Member of the **French University Institute (IUF)**; Distinguished Professor in LIPADE, the Computer Science Department of the **Université Paris Cité**; and Director of the Data Intelligence Institute of Paris (diiP) and LIPADE