

George K. Thiruvathukal

Professor and Chairperson

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ACADEMIC APPOINTMENTS

2022–Present	Chairperson, Department of Computer Science Loyola University Chicago, Chicago, IL
2011–Present	Full Professor, Department of Computer Science Loyola University Chicago, Chicago, IL
2015–Present	Visiting Computer Scientist, Argonne Leadership Computing Facility Argonne National Laboratory, Argonne, IL
2010–2015	Co-Founder and Director, Center for Textual Studies and Digital Humanities Loyola University Chicago, Chicago, IL
2012–2014, 1999–2008	Visiting Scholar, Electrical Engineering and Computer Science Northwestern University, Evanston, IL
2004–2010	Associate Professor, Department of Computer Science Loyola University Chicago, Chicago, IL
2001–2004	Visiting Associate Professor, Department of Computer Science Loyola University Chicago, Chicago, IL
1999–2000	Assistant Professor, Department of Computer Science DePaul University, Chicago, IL
1998–1999	Visiting Assistant Professor, Department of Computer Science Loyola University Chicago, Chicago, IL
1996–1998	Postdoctoral Computer Scientist, Mathematics and Computer Science Division Argonne National Laboratory, Argonne, IL
1996–1997	Adjunct Assistant Professor of Computer Science Illinois Institute of Technology, Chicago, IL

CHAIRPERSON SERVICE AND HIGHLIGHTS

- Led growth of full-time faculty from 14 to 19 full-time members (13 tenure professor stream and 6 teaching professor stream) as of AY 2025-2026
- Obtained administrative approval and launched new PhD Program in Fall 2023 with 12 funded students since 2022 (4 work with me)
- Obtained administrative approval and launched College of Arts and Sciences Center for Cybersecurity in Fall 2024
- Obtained administrative approval and launched new MS in Cybersecurity Program in Fall 2025
- Obtained administrative approval and launched Minor in Artificial Intelligence in Fall 2025
- Collaborated with the Business School to obtain approval and launched Minor in Applied Artificial Intelligence in Business in Fall 2025
- Collaborated with the Department of Philosophy to obtain approval to launch Interdisciplinary Minor in Artificial Intelligence and Human Flourishing in Fall 2026

INDUSTRY POSITIONS

2002–2004	President and CEO Nimkathana Corporation, Chicago, IL
1995–1996	Development Manager R.R. Donnelley and Sons/Metromail, Lombard, IL
1993–1995	Senior Member of Technical Staff R.R. Donnelley and Sons Technical Center, Lisle, IL
1991–1993	Member of Technical Staff Tellabs, Inc., Lisle, IL
1989–1991	Part-Time Consultant, Database Application Development Technology Advisors, Park Ridge, IL

ACADEMIC PREPARATION

1990–1995	PhD, Computer Science Illinois Institute of Technology, Chicago, IL Doctoral Dissertation: <i>An Enhanced Actors Model and Programming Environment for Parallel and Distributed Processing</i>
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1988–1990	MS, Computer Science Illinois Institute of Technology, Chicago, IL Masters Research: <i>A Simulation of Demand-Driven Dataflow: Translation from Lucid into Message Driven Computing (MDC) Language (a software dataflow system for distributed multicore systems)</i>
1986–1988	BS, Computer Science with Minor in Mathematics Lewis University, Romeoville, IL Undergraduate Research: <i>Apt Data Structures Library for the C Programming Language and LL(k)-style Parser Generator and Data-Parallel C Compiler Code Generator</i>
1986–1988	BS, Physics with Minor in Mathematics Lewis University, Romeoville, IL Undergraduate Research: <i>Weak Interactions Physics Smart Acquisition System (WISAS) and Coupled Oscillations in One Dimension</i>

LIFELONG LEARNING

2026–Present	BA, Music, Concentration in Jazz Studies (Piano) Loyola University Chicago, Chicago, IL
2022–2025	Non-Degree, Music, Jazz Piano and Combo Loyola University Chicago, Chicago, IL
2018–2025	Non-degree, Music, Jazz Performance Ensemble Old Town School of Folk Music, Chicago, IL

ACADEMIC RECOGNITION

2009	Sujack Family Teaching Excellence Award Loyola University Chicago, Chicago, IL
1988–1994	Teaching and Research Assistantships Illinois Institute of Technology, Chicago, IL
1988	Induction into Sigma Pi Sigma Physics National Honor Society Lewis University, Romeoville, IL
1988	Top Graduate, College of Arts and Sciences, Class of 1988 Lewis University, Romeoville, IL
1988	Top Department Graduate, Computer Science Department, Class of 1988 Lewis University, Romeoville, IL

STUDENT RESEARCH EXPERIENCES/INTERNSHIPS

1989–1991	Graduate Lab Fellow, Environmental and Information Systems Division Argonne National Laboratory, Argonne, IL
1987–1988	Cooperative Education Program, Physics Division Argonne National Laboratory, Argonne, IL
1987	NSF Research Experience for Undergraduates in Compiler Construction University of New Hampshire, Computer Science, Durham, NH

FUNDING

RESEARCH AWARDS/GRANTS

2025–2027	NSF CCF-2515526 — PI, Collaborative Research: Planning: CROSS: Building a Community aROund Securing the Research Software Supply Chain, Loyola University Chicago, \$49,996
2026–2029	NEH Scholarly Editions — Co-PI, The Amy Lowell Letters Project, Scholarly Editions and Translations, \$299,699
2025–2027	NSF CCF-2515526 — Co-PI, Conference: NAIRR Pilot Expansion: FA2: Capacity and Community for Research-Emerging Institutions with Small-to-Medium Computing Programs to University of Wyoming, Loyola University Chicago, College of Charleston, \$298,882
2024–2026	NSF CBET-2343595 — PI, Collaborative Research: EAGER: CET: Exploring The Risks and Rewards of Large Language Models in Enabling Energy-Efficient Data Center Software Infrastructure, \$147,947
2022–2024	NSA NCAE-C H98230-22-1-0306 — co-PI, Taming Container Privileges using Userland OS Guests, \$500,000
2021–2024	NSF OAC-2107020 — PI, Collaborative Research: OAC Core: Advancing Low-Power Computer Vision at the Edge, \$258,000
2021–2024	NSF OAC-2104319 — PI, CDSE: Collaborative: Cyber Infrastructure to Enable Computer Vision Applications at the Edge Using Automated Contextual Analysis, \$209,624
2021–2024	NSF HRD-2121654 — Senior Personnel, ADVANCE Adaptation: INSPIRED-Inclusive Practices in the Retention and Equity of Diverse Faculty, \$972,496
2020–2021	NSF OAC-2027514 — Senior Personnel/Consultant, Collaborative: RAPID: Leveraging New Data Sources to Analyze the Risk of COVID-19 in Crowded Locations, \$50,000
2017–2021	NSF CNS-1738691 — Co-PI, Collaborative Research: Chicago Alliance for Equity in Computer Science, \$72,497

2014–2018	NSF OAC-1445347 — PI, EAGER: Collaborative Research: Making Software Engineering Work for Computational Science and Engineering: An Integrated Approach, \$109,598
2004–2007	NSF CCF-0444197 — PI, Collaborative Proposal: Ultra-Scalable System Software and Tools for Data-Intensive Computing, \$72,433
2002–2006	NSF CNS-0205652 — PI, ITR: The Community Information Technology Entrepreneurship Project, \$1,034,500
2010–2014	NSF CNS-10423372 — Co-PI, Collaborative Research: BPC-LSA: ACM SIGBP: Forming an ACM Special Interest Group to Scale the Impact of BPC Activities, \$38,782
2009–2010	NEH HD-50782-09 — Co-Director, Humanities Research Infrastructure and Tools (HRIT): An Environment for Collaborative Textual Scholarship, \$50,000
2008–2009	NSF CNS-0837769 — Co-PI, Improving Metropolitan Participation to Accelerate Computing Throughput and Success (IMPACTS), \$141,711
2006–2010	NSF DBI-0552888 — Co-PI, REU Site: Integrated Cross-Disciplinary Summer Program in Bioinformatics, \$292,412
2002–2005	NSF OAC-0228926 — Co-PI, HPNC: HPNC for Science Research at Loyola University Chicago, \$150,000
2017	Google — Co-PI, Google Research Awards, Machine Perception, \$75,000
2002	DARPA SBIR Phase I — PI, Ad Hoc Human Interaction Networks for Asymmetric Threat Surveillance, \$100,000
2003	DARPA SBIR Phase I — Co-PI, Cluster Based Repositories and Analysis, \$100,000

UNIVERSITY FUNDING

2024–2025	Schreiber Venture Fund — Co-PI, Culturally Responsive Intervention Incorporating AI to Promote Healthy Integration Among Afghan Evacuees in Illinois and Tennessee (Pilot Study), \$47,763
2019–2020	Office of Research Services — PI, Autonomous Vehicle Security, \$5,000
2009–2010	Office of Research Services — PI, Research Stimulation: Chicago Clean Air/Clean Water, \$20,000
2009–2010	Office of Research Services — Co-PI, Research Stimulation: Modernist Circles/Textual Studies, \$20,000

GIFTS

2022	Intel — PI, Unrestricted gift to oneAPI curricular modules for systems at Loyola, \$40,000
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2019	Google — PI, Unrestricted gift to support machine learning and software engineering research at Loyola, \$30,000
2020	Facebook Research — PI, Unrestricted gift to support low-power computer vision and reproducibility research at Loyola, \$30,000
2017	Google Research Awards — PI, \$75,000
2017	4C Insights — PI, Unrestricted gift to support systems research at Loyola, \$10,000
2015	Typesafe — Co-PI, Unrestricted gift to support languages/systems research at Loyola, \$5,000
2009	Microsoft — PI, Unrestricted gift to support HPC and Bioinformatics Research, \$15,000
2009	Microsoft — PI, In-kind equipment donation of computational cluster (80 nodes), \$100,000
2007	HP — Co-PI, Learning the Wonders of Computing with Wireless Collaboration, \$68,000
2005	Hostway Corporation — PI, Unrestricted gift to support creation of open source laboratory, \$30,000

PUBLICATION SUMMARY

† graduate student co-author * undergraduate student co-author

Citations: 2647 on Google Scholar h-index: 26 i10-index: 58

GitHub: 2752 contributions during 2011–2026 at gkthiruvathukal

BOOKS

Arthur J. Lurigio, Michael Perry, Nathan M. Lutz, and George K. Thiruvathukal

Introduction to Statistics in Criminal Justice and Criminology: A Practical Approach to Calculating, Using, and Interpreting Data

2026

Yung-Hsiang Lu and George K. Thiruvathukal

Recursion: Mathematics and Python

2026

Yung-Hsiang Lu and **George K. Thiruvathukal**

Intermediate C Programming, 2nd Edition

2024

George K. Thiruvathukal, Yung-Hsiang Lu, Jaeyoun Kim, Yiran Chen, and Bo Chen

Low-Power Computer Vision: Improve the Efficiency of Artificial Intelligence

2022

Jeffrey Carver, Neil P. Chue Hong, and **George K. Thiruvathukal**
Software Engineering for Science
2017

Steven E. Jones and **George K. Thiruvathukal**
Codename Revolution: The Nintendo Wii Platform
2012

George K. Thiruvathukal, *John P. Shafae[†]*, and Thomas W. Christopher
Web Programming: Techniques for Integrating Python, Linux, Apache, and MySQL
2002

Thomas W. Christopher and **George K. Thiruvathukal**
High Performance Java Computing: Multi-Threaded and Networked Programming
2000

JOURNAL ARTICLES

Abha Rai, Mary Lehman Held, Maria Vidal de Haymes, Ali Tarokh, Shakila Fro, Farzana Farzam, Elisa Levya Cea, Alix Sanchez Gomez, Maddie Juarez, George K. Thiruvathukal, and Paula Tallman
Development of a Culturally Responsive Intervention for Stronger Communities
Families in Society, pp. 10443894251332666, 2026-03-14

Abha Rai, Kristen E. Ravi, Jonathan B. Singer, Alix Sanchez-Gomez, George K. Thiruvathukal, and Erik Pautsch
The Digital Scholar: Artificial Intelligence in Social Work Research
Families in Society, 2026-03-03

Wenxin Jiang, Mingyu Kim, Chingwo Cheung, Heesoo Kim, George K. Thiruvathukal, and James C. Davis
“I see models being a whole other thing”: an empirical study of pre-trained model naming conventions and a tool for enhancing naming consistency
Empirical Software Engineering, vol. 30, no. 6, pp. 155, 2025-08-16

David Guerrero-Pantoja, Erick Pautsch, Clara Almeida, Silvio Rizzi, George K. Thiruvathukal, and Maria Pantoja
Accelerating uncertainty methods for distributed deep learning on novel architectures
The Journal of Supercomputing, vol. 81, no. 1, pp. 315, 2025-01

A. Rai, M. L. Held, M. Vidal de Haymes, A. Tarokh, S. Fro, F. Farzam, E. Levya-Cea, A. S. Gomez, M. Juarez, **G. K. Thiruvathukal**, and P. Tallman
AER for Stronger Communities: A Culturally Responsive Intervention for Afghan Evacuees [Brief Research Note, Under Review]
Families in Society, 2025

G. S. Fahara-Ojeda, L. A. Tapia-Alarcón, B. M. Villegas-Martínez, G. K. Thiruvathukal, A. Francisco Neto, S. Gesing, T. Battelle, V. Stankovski, I. A. Bocanegra-Garay, A. Venegas-Gomez, J. J. Escobedo-Alatorre, and R. A. Beltrán-Vargas

Exact dynamics and Bloch oscillations in a non-Hermitian zigzag Glauber–Fock lattice

Physica A: Statistical Mechanics and its Applications, pp. 130811, 2025

Wenxin Jiang[†], Vishnu Banna^{*}, Naveen Vivek, Abhinav Goel[†], Nicholas Synovic[†], **George K. Thiruvathukal**, and James C. Davis

Challenges and practices of deep learning model reengineering: A case study on computer vision

Empirical Software Engineering, vol. 29, no. 6, pp. 142, 2024-08-20

Eldor Abdukhamidov, Mohammed Abuhamad, **George K. Thiruvathukal**, Hyoungshick Kim, and Tamer Abuhmed

SingleADV: Single-Class Target-Specific Attack Against Interpretable Deep Learning Systems

IEEE Transactions on Information Forensics and Security, vol. 19, pp. 5985--5998, 2024

Gregory J. Matthews, Karthik Bharath, Sebastian Kurtek, Juliet K. Brophy, **George K. Thiruvathukal**, and Ofer Harel

Shape-Based Classification of Partially Observed Curves, With Applications to Anthropology

Frontiers in Applied Mathematics and Statistics, vol. 7, pp. 70, 2021

Ryan Dailey^{*}, Aniesh Chawla^{*}, Andrew Liu^{*}, Sripath Mishra^{*}, Ling Zhang^{*}, Josh Majors^{*}, Yung-Hsiang Lu, and **George K. Thiruvathukal**

Automated Discovery of Network Cameras in Heterogeneous Web Pages

2021

Dario Dematties[†], Silvio B. Rizzi, and **George K. Thiruvathukal**

Towards High-End Scalability on Bio-Inspired Computational Models

2020-08

Dario Dematties[†], Silvio Rizzi, **George K. Thiruvathukal**, Mauricio David Pérez, Alejandro Waincelboim, and B. Silvano Zanutto

A Computational Theory for the Emergence of Grammatical Categories in Cortical Dynamics

Frontiers in Neural Circuits, vol. 14, pp. 12, 2020

Juliet K. Brophy, Gregory J. Matthews, and **George K. Thiruvathukal**

An Analysis of the Effect of Tooth Wear on Bovid Identification

South African Journal of Science, vol. 115, 2019-07

Dario Dematties[†], Silvio B. Rizzi, **George K. Thiruvathukal**, Alejandro Waincelboim, and B. Silvano Zanutto

Phonetic Acquisition in Cortical Dynamics, a Computational Approach

PLOS ONE, vol. 14, no. 6, pp. 1--28, 2019-06

Sergei Alyamkin, Matthew Ardi, Alexander C. Berg, Achille Brighton, Bo Chen, Yiran Chen, Hsin-Pai Cheng, Zichen Fan, Chen Feng, Bo Fu, Kent Gauen, Abhinav Goel, Alexander Goncharenko, Xuyang Guo, Soonhoi Ha, Andrew Howard, Xiao Hu, Yuanjun Huang, Donghyun Kang, Jaeyoun Kim, Jong Gook Ko, Alexander Kondratyev, Junhyeok Lee, Seungjae Lee, Suwoong Lee, Zichao Li, Zhiyu Liang, Juzheng Liu, Xin Liu, Yang Lu, Yung-Hsiang Lu, Deeptanshu Malik, Hong Hanh Nguyen, Eunbyung Park, Denis Repin, Liang Shen, Tao Sheng, Fei Sun, David Svitov, **George K. Thiruvathukal**, Baiwu Zhang, Jingchi Zhang, Xiaopeng Zhang, and Shaojie Zhuo

Low-Power Computer Vision: Status, Challenges, and Opportunities

IEEE Journal on Emerging and Selected Topics in Circuits and Systems, vol. 9, no. 2, pp. 411--421, 2019-06

Gregory J. Matthews, Juliet K. Brophy, Hongie Gu, Maxwell P. Luetkemeier[†], and **George K. Thiruvathukal**
A Comparison of Machine Learning Techniques for Taxonomic Classification of Teeth from the Family Bovidae
Journal of Applied Statistics, vol. 45, no. 15, pp. 2773--2787, 2018

Gregory J. Matthews, **George K. Thiruvathukal**, Matthew P. Luetkemeier[†], and Juliet K. Brophy
Examining the Use of Amazon's Mechanical Turk for Edge Extraction of the Occlusal Surface of Fossilized Bovid Teeth.

PLOS ONE, vol. 12, no. 7, 2017

Steven Reisman^{*}, Thomas Hatzopoulos^{*}, Konstantin L  ufer, **George K. Thiruvathukal**, and Catherine Putonti
A Polyglot Approach to Bioinformatics Data Integration: A Phylogenetic Analysis of HIV-1
Evolutionary Bioinformatics, vol. 12, pp. EBO.S32757, 2016

Gregor von Laszewski, **George K. Thiruvathukal**, and Ian Foster
Making Large-Scale Telemedicine Work: A Computational Infrastructure for Telemedicine.
Future Generation Computing Systems (Elsevier), vol. 79, pp. 195--213, 2000

George K. Thiruvathukal, Phil M. Dickens, and Shahzad Bhatti[†]
Java on Networks of Workstations (JavaNOW): A Parallel Computing Framework Inspired by Linda and the Message Passing Interface (MPI)
Concurrency: Practice and Experience, vol. 12, pp. 1093--1116, 2000

George K. Thiruvathukal, Lovely S. Thomas[†], and Andrew T. Korczynski[†]
Reflective Remote Method Invocation
Concurrency: Practice and Experience, vol. 10, no. 11, pp. 911--925, 1998

Ian Foster, Jonathan Geisler[†], William Gropp, Nicholas Karonis, Ewing Lusk, **George K. Thiruvathukal**, and Steven Tuecke
Wide-Area Implementation of the Message Passing Interface
Journal of Parallel Computing, vol. 24, no. 12, pp. 1735, 1998

Ian Foster, Gregor von Laszewski, **George K. Thiruvathukal**, and Brian Toonen
A Computational Framework for Telemedicine
Future Generation Computer Systems Future Generation Computer Systems, vol. 14, no. 1, pp. 109--123, 1998

William T. O'Connell[†], **George K. Thiruvathukal**, and Thomas W. Christopher

Distributed Memo: Heterogeneously Concurrent Programming with a Shared Directory of Unordered Queues
International Journal of Computers and Applications, vol. 19, no. 2, pp. 115--122, 1997

Ian Foster, **George K. Thiruvathukal**, and Steven Tuecke

Technologies for Ubiquitous Supercomputing: A Java Interface to the Nexus Communication System
Concurrency: Practice and Experience, vol. 9, no. 6, pp. 465, 1997

CONFERENCE PAPERS

Erik Pautsch, Mengjiao Han, Joseph A. Insley, Janet Knowles, Victor A. Mateevitsi, Silvio Rizzi, and George K. Thiruvathukal

An Interactive Agentic HPC Tutor for Lesson Planning, Teaching, and Assessment

Proceedings of the SC '25 Workshops of the International Conference for High Performance Computing, Networking, Storage and Analysis, pp. 367--375, 2025-11-16

Maddie Juarez, Eldor Abdukhamidov, Manuel Sandoval, Mujtaba Nazari, Deborah Hall, George K. Thiruvathukal, Tamer Abuhmed, Yasin N. Silva, and Mohammed Abuhamad

Analyzing Adversarial Strategies and Countermeasures for Cyberbullying Detection

Social, Cultural, and Behavioral Modeling: 18th International Conference, SBP-BRIMS 2025, Pittsburgh, PA, USA, October 14--17, 2025, Proceedings, pp. 86, 2025

Purvish Jajal, Nick John Eliopoulos, Benjamin Shiue-Hal Chou, George K. Thiravathukal, James C. Davis, and Yung-Hsiang Lu

Token Turing Machines are Efficient Vision Models

2025 IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), pp. 7898--7907, 2025

Nicholas John Eliopoulos, Purvish Jajal, James C. Davis, Gaowen Liu, George K. Thiravathukal, and Yung-Hsiang Lu

Pruning one more token is enough: Leveraging latency-workload non-linearities for vision transformers on the edge

2025 IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), pp. 7153--7162, 2025

Isaac Ahlgren[†], Rushikesh Shirsat[†], Omar Achkar[†], **George K Thiruvathukal**, Kyu In Lee, and Neil Klingensmith
Not-so-Secret Authentication: The SyncBleed Attacks and Defenses for Zero-Involvement Authentication Systems

2025 IEEE International Conference on Cyber Security and Resilience (CSR), pp. 592--599, 2025

Firuz Juraev[†], Mohammed Abuhamad, Eric Chan-Tin, **George K. Thiruvathukal**, and Tamer Abuhmed

Unmasking the Vulnerabilities of Deep Learning Models: A Multi-Dimensional Analysis of Adversarial Attacks and Defenses

2024 Silicon Valley Cybersecurity Conference (SVCC), pp. 1--8, 2024

Firuz Juraev[†], Mohammed Abuhamad, Simon S. Woo[†], **George K Thiruvathukal**, and Tamer Abuhmed
The Impact of Model Variations on the Robustness of Deep Learning Models in Adversarial Settings
2024 Silicon Valley Cybersecurity Conference (SVCC), pp. 1--7, 2024

Maddie Juarez^{*}, Natali Barragan[†], Deborah L. Hall, **George K. Thiruvathukal**, and Yasin N. Silva
ActionPoint: An App to Combat Cyberbullying by Strengthening Parent-Teen Relationships
2024 IEEE World Forum on Public Safety Technology (WFPST), pp. 99--103, 2024

Wenxin Jiang[†], Jerin Yasmin[†], Jason Jones^{*}, Nicholas Synovic[†], Jiashen Kuo[†], Nathaniel Bielanski[†], Yuan Tian,
George K. Thiruvathukal, and James C. Davis
PeaTMOSS: A Dataset and Initial Analysis of Pre-Trained Models in Open-Source Software
Mining Software Repositories 2024 (MSR 2024), 2024

Clara J. Almeida^{*}, David Guerrero-Pantoja^{*}, Erik Pautsch[†], Silvio Rizzi, **George K. Thiruvathukal**, and Maria Pantoja
Optimizing Uncertainty Estimation on Scientific Visualizations Using Learning Models
SC24-W: Workshops of the International Conference for High Performance Computing, Networking, Storage and Analysis, pp. 387--393, 2024

Isaac Ahlgren^{*}, Jack West[†], Kyuin Lee, **George K. Thiruvathukal**, and Neil Klingensmith
A Signal Injection Attack Against Zero Involvement Pairing and Authentication for the Internet of Things
2024 IEEE Workshop on Design Automation for CPS and IoT (DESTION), pp. 9--15, 2024

Nicholas M. Synovic, Matt Hyatt, Rohan Sethi, Sohini Thota, Shilpika, Allan J. Miller, Wenxin Jiang, Emmanuel S. Amobi, Austin Pinderski, Konstantin Läufer, Nicholas J. Hayward, Neil Klingensmith, James C. Davis, and George K. Thiruvathukal
Snapshot Metrics Are Not Enough: Analyzing Software Repositories with Longitudinal Metrics
Proceedings of the 37th IEEE/ACM International Conference on Automated Software Engineering, 2023

Wenxin Jiang[†], Nicholas Synovic[†], Purvish Jajal[†], Taylor R. Schorlemmer[†], Arav Tewari^{*}, Bhavesh Pareek^{*},
George K. Thiruvathukal, and James C. Davis
PTMTorrent: A Dataset for Mining Open-source Pre-trained Model Packages
2023 IEEE/ACM 20th International Conference on Mining Software Repositories (MSR), pp. 57--61, 2023

Wenxin Jiang[†], Nicholas Synovic[†], Matt Hyatt^{*}, Taylor R. Schorlemmer[†], Rohan Sethi^{*}, Yung-Hsiang Lu, **George K. Thiruvathukal**, and James C. Davis
An Empirical Study of Pre-Trained Model Reuse in the Hugging Face Deep Learning Model Registry
2023 IEEE/ACM 45th International Conference on Software Engineering (ICSE), pp. 2463--2475, 2023

James C. Davis, Purvish Jajal[†], Wenxin Jiang[†], Taylor R. Schorlemmer[†], Nicholas Synovic[†], and **George K. Thiruvathukal**
Reusing Deep Learning Models: Challenges and Directions in Software Engineering
2023 IEEE John Vincent Atanasoff International Symposium on Modern Computing (JVA), pp. 17--30, 2023

Yucheng Yang[†], Jack West^{*}, **George K. Thiruvathukal**, Neil Klingensmith, and Kassem Fawaz
Are You Really Muted?: A Privacy Analysis of Mute Buttons in Video Conferencing Apps
Proceedings of 22nd Privacy Enhancing Technologies Symposium (PETS 2022), 2022

Jakob Veselsky^{*}, Jack West[†], Isaac Ahlgren[†], **George K. Thiruvathukal**, Neil Klingensmith, Abhinav Goel[†],
Wenxin Jiang[†], James C. Davis, Kyuin Lee, and Younghyun Kim
Establishing Trust in Vehicle-to-Vehicle Coordination: A Sensor Fusion Approach
2022 2nd Workshop on Data-Driven and Intelligent Cyber-Physical Systems for Smart Cities Workshop (DI-CPS), pp. 7--13, 2022

Caleb Tung[†], Abhinav Goel[†], Xiao Hu[†], Nick Eliopoulos[†], Emmanuel S. Amobi[†], **George K. Thiruvathukal**, Vipin
Chaudhary, and Yung-Hsiang Lu
Irrelevant Pixels are Everywhere: Find and Exclude Them for More Efficient Computer Vision
2022 IEEE 4th International Conference on Artificial Intelligence Circuits and Systems (AICAS), pp. 340--343,
2022

Konstantin Läufer and **George K. Thiruvathukal**
UnoAPI: Balancing Performance, Portability, and Productivity (P3) in HPC Education
2022 IEEE/ACM International Workshop on Education for High Performance Computing (EduHPC), pp. 1--10,
2022

Wenxin Jiang[†], Nicholas Synovic[†], Rohan Sethi^{*}, Aryan Indarapu^{*}, Matt Hyatt^{*}, Taylor R. Schorlemmer[†], **George
K. Thiruvathukal**, and James C. Davis
An Empirical Study of Artifacts and Security Risks in the Pre-Trained Model Supply Chain
*Proceedings of the 2022 ACM Workshop on Software Supply Chain Offensive Research and Ecosystem
Defenses*, pp. 105--114, 2022

Abhinav Goel[†], Caleb Tung[†], Xiao Hu[†], **George K. Thiruvathukal**, James C. Davis, and Yung-Hsiang Lu
Efficient Computer Vision on Edge Devices with Pipeline-Parallel Hierarchical Neural Networks
27th Asia and South Pacific Design Automation Conference (ASP-DAC), 2022

Abhinav Goel[†], Caleb Tung[†], Nick Eliopoulos[†], Xiao Hu[†], **George K. Thiruvathukal**, James C. Davis, and Yung-
Hsiang Lu
Directed Acyclic Graph-Based Neural Networks for Tunable Low-Power Computer Vision
Proceedings of the ACM/IEEE International Symposium on Low Power Electronics and Design, 2022

Jack West^{*}, Kyuin Lee, Suman Banerjee, Younghyun Kim, **George K. Thiruvathukal**, and Neil Klingensmith
Moonshine: An Online Randomness Distiller for Zero-Involvement Authentication
Information Processing in Sensor Networks 2021 (IPSN 2021), 2021

Sara Aghajanzadeh^{*}, Roopasree Naidu^{*}, Shuo-Han Chen, Caleb Tung[†], Abhinav Goel[†], Yung-Hsiang Lu, and
George K. Thiruvathukal
Camera Placement Meeting Restrictions of Computer Vision
2020 IEEE International Conference on Image Processing (ICIP), pp. 3254--3258, 2020-10

Aditya Chakraborty*, Akshay Pawar*, Hojoung Jang*, Shunqiao Huang*, Sripath Mishra*, Chen Shuo-Han, Yan-Hao Chang*, **George K. Thiruvathukal**, and Yung-Hsiang Lu

A Real-Time Feature Indexing System on Live Video Streams

2020 IEEE 44th Annual Computers, Software, and Applications Conference (COMPSAC), pp. 42--50, 2020-07

Abhinav Goel[†], Caleb Tung[†], Yung-Hsiang Lu, and **George K. Thiruvathukal**

A Survey of Methods for Low-Power Deep Learning and Computer Vision

2020 IEEE 6th World Forum on Internet of Things (WF-IoT), pp. 1--6, 2020-06

Jack West*, Neil Klingensmith, and **George K. Thiruvathukal**

FLIC: A Distributed Fog Cache for City-Scale Applications

2020 IEEE International Conference on Fog Computing (ICFC), pp. 73--78, 2020-04

Xiao Hu, Haobo Wang, Anirudh Vegesana, Somesh Dube, Kaiwen Yu, Gore Kao, Shuo-Han Chen, Yung-Hsiang Lu, **George K. Thiruvathukal**, and Ming Yin

Crowdsourcing Detection of Sampling Biases in Image Datasets

Proceedings of The Web Conference 2020, pp. 2955--2961, 2020

Abhinav Goel[†], Caleb Tung[†], Sara Aghajanzadeh*, Isha Ghodgaonkar*, Shreya Ghosh[†], **George K. Thiruvathukal**, and Yung-Hsiang Lu

Low-Power Object Counting with Hierarchical Neural Networks

Proceedings of the ACM/IEEE International Symposium on Low Power Electronics and Design, pp. 163168, 2020

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Jeffrey C. Carver and **George K. Thiruvathukal**
Collaborative Research: Making Software Engineering Work for Computational Science & Engineering: An Integrated Approach
Figshare, 2016

George K. Thiruvathukal and *Ufuk Verun[†]*
Apt Compiler Toolkit (Legacy Document)
Figshare, 2015

George K. Thiruvathukal

Ad Hoc Human Information Nets for Asymmetric Threat Surveillance.

Defense Technical Information Center, 2003

PHD DISSERTATION AND MS THESIS SUPERVISION AND CO-SUPERVISION

LOYOLA UNIVERSITY CHICAGO

2024–Present	Matt Hyatt, PhD (Supervisor) — Loyola University Chicago
2023–Present	Jason Luce, PhD (Supervisor) — Loyola University Chicago
2024–Present	Eric Pautsch, PhD (Supervisor) — Loyola University Chicago
2023–Present	Nicholas Synovic, PhD (Supervisor) — Loyola University Chicago

OTHER UNIVERSITIES AND INSTITUTIONS

2020–2023	Dario Dematties, PhD (Co-Supervisor and Mentor) — University of Buenos Aires
2020–Present	Nicholas Eliopoulous, PhD (Co-Supervisor) — Purdue University
2020–2024	Caleb Tung, PhD (Co-Supervisor) — Purdue University
2019–2023	Abhinav Goel, PhD (Co-Supervisor) — Purdue University
2019–Present	Wenxin Jiang, PhD (Mentor) — Purdue University
2024–Present	Purvish Jajal, PhD (Co-Supervisor) — Purdue University

MASTERS STUDENTS WITH THESIS

2008–2012	Sarah Kaylor, MS (Supervisor) — Loyola University Chicago
TBD	Shilpika, MS (Supervisor) — Loyola University Chicago
2021–2024	Jack West, MS (Co-Supervisor) — Loyola University Chicago

SERVICE

UNIVERSITY SERVICE

- *Member*, Faculty Council, Faculty Handbook Committee, 2020–2022
- *Member*, Neuroscience Search Committee, 2020
- *Chair*, Search Committee, Computer Science, 2013
- *Member*, Faculty Council, 2012–2014
- *Member*, Search Committee, Non-Tenure Track Position in Digital Humanities, 2010

- *Member*, Search Committee, School of Communication, 2009
- *Chair*, Graduate Council, 2006

DEPARTMENTAL SERVICE

- *Director*, Computer Science Labs and Infrastructure, 2003–Present
- *Faculty Advisor*, Free/Open Source Software at Loyola Student Organization, 2008–2010
- *Faculty Advisor*, Loyola Technology and Entrepreneurship Student Organization (LuTech), 2015–2017
- *Chair*, Undergraduate Curriculum Committee
- *Co-Chair*, Faculty Evaluation and Appraisal Committee, AY 2012–2018
- *Undergraduate Program Director, Temporary Assignment*, Department of Computer Science, 2004
- *Graduate Program Director*, Department of Computer Science, 2004–2006

PANEL SERVICE

- *Panelist*, National Science Foundation, CISE, Cyberinfrastructure, and Cyber-Physical Systems
- *Panelist*, National Endowment for the Humanities, Office of Digital Humanities
- *Panelist*, National Institutes for Health, Multiscale and Cross-Agency R01/U01 Programs

CONFERENCE COMMITTEES

- *Vice Chair*, EduHPC 2023
- *Program Committee*, Robotics in Education 2021
- *Program Committee*, Robotics in Education 2020
- *Program Committee*, Robotics in Education 2019
- *Program Committee*, Chicago Colloquium on Digital Humanities and Computer Science 2018
- *Program Committee*, SE4Science Workshop 2018
- *Program Committee*, SE4Science Workshop 2017
- *Program Committee*, SE4Science Workshop 2016
- *Program Committee*, SIGCSE, CS Education Research Track, 2018
- *Program Committee*, The 4th International Conference on Big Data, Cloud Computing, and Data Science Engineering (BCD 2019)
- *Co-General Chair*, RESPECT 2019
- *Co-General Chair*, RESPECT 2018
- *Program Committee*, PEARC 2017 Workforce, Diversity, and Evaluation and Software and Data Tracks, 2017
- *Tutorials Chair*, RESPECT 2016
- *Co-Program Chair*, RESPECT 2015
- *Program Committee*, SBAC-PAD 2013 Applications and Algorithms Track, 2013
- *Program Committee Member*, The 25th International Symposium on Computer Architecture and High Performance Computing
- *Program Committee*, Chicago Colloquium on Digital Humanities in Computer Science 2012
- *Program Chair*, Chicago Colloquium on Digital Humanities in Computer Science 2011
- *Program Committee*, International Conference on Cloud and Green Computing (CGC2011)

- *Program Committee Member*, ICSOFT 2009 and 2010
- *Program Committee Member*, IEEE Cloud Computing 2010
- *Organizing Committee Member*, ACM Symposium on Structured Document Engineering 2005
- *Program Committee Member*, IPDPS Workshop on Java for High-Performance Computing, 1999–2005
- *Program Committee Member*, ACM Symposium on Structured Document Engineering, 2002–2004
- *Program Committee Member*, High-Performance Computing and Networking (HPCN), 2001
- *Co-Chair*, High-Performance Computing and Networking (HPCN) Workshop on Java, 2001
- *Tutorials Program Committee*, SC 2000, 2000
- *Program Committee and Registration Chair*, ACM Java Grande, 1998

EDITORIAL BOARDS/PROFESSIONAL SOCIETY SERVICE

- *Track Editor in Chief*, Data Science, Artificial Intelligence, and Machine Learning, Journal of Open Source Software, 2022–2024
- *Associate Editor*, Journal of Open Source Software, 2019–2026
- *Advisory Board*, IEEE Computer, 2020–Present
- *Magazine Operations Chair*, IEEE Computer Society, 2017–2018
- *Department and Track Editor*, Reproducible Research, CISE Magazine, 2017–Present
- *Department and Track Editor*, Data*, CISE Magazine, 2017–2020
- *Associate Editor in Chief*, Computer Magazine, 2016–2020
- *Editor in Chief*, Computing in Science and Engineering, 2013–2016
- *Associate Editor*, IEEE Computing Now, 2008–2014
- *Associate Editor*, CISE Magazine, 2008–2012
- *Department Editor*, Scientific Programming, CISE Magazine, 2004–2013
- *Secretary General*, Java Grande Forum, 1997–2000

MEDIA APPEARANCES

TELEVISION

- ABC-7 Chicago, Robots Inspiring STEM Education in Schools, 15 October 2016
- WTTW Chicago Tonight, Reports: Facebook Users' Personal Data Exploited to Help Trump's Campaign, 20 March 2018

NEWSPAPERS AND MAGAZINES

- VentureBeat, How AI is Bringing Hollywood to Life, 9 December 2016
- EdTech Digest, Beyond Pythagoras, 16 December 2016
- Robotics Tomorrow, Robotics 101 at Loyola University Chicago, 3 November 2016
- SC Media, Vulnerabilities Exist but so do Safeguards, 9 November 2016
- ZDNet, Can AI really be ethical and unbiased?, 16 October 2016
- Philadelphia Inquirer, Penn physicists honored for work that could take heat out of computing, 24 April 2015
- IT World, Meet the IT Dream Team, 26 March 2015

- Computer Weekly, If the Year of Code has got it wrong, how should we teach kids to code?, 17 February 2014
- Dell TechPageOne, Internet of Things will require data centers of all sizes, 24 June 2014
- Forbes, Does the Internet of Things Need Its Own Network?, 3 July 2014
- The Telegraph UK, Google Glass: the next big gaming platform?, 12 August 2013
- Times of London, Computers with a Sense of Humour?, 4 September 2013
- Fast Company Co.Create, The Social Living Room: How Nintendo's Wii revolutionized Gaming and What it Means for the Future of Consoles, 7 June 2012
- ACM/IEEE Supercomputing 2012, IEEE News Release for Supercomputing 12, 12 November 2012