Ivan Avramovic, Ph.D.

Contact Info

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Education

Dec 2020 — Doctor of Philosophy in Computer Science,
George Mason University, Fairfax, Virginia
Dissertation: "Combinatorial Algorithms in Sorting, Searching, and Information Dissemination"
Advisor: Prof. Dana Richards
Distinguished Academic Achievement Award | Comp. Sci. Dept.
GPA: 4.0/4.0

May 2012 — Master of Science in Computer Science,
George Mason University, Fairfax, Virginia
Distinguished Academic Achievement Award | Comp. Sci. Dept.
GPA: 4.0/4.0

May 1997 — Bachelor of Science in Electrical Engineering,
University of Illinois, Urbana-Champaign
Brahana Award | Mathematics Dept.
GPA: 3.46/4.0 in technical courses, 3.05/4.0 overall

Jun 1993 — **Thomas Jefferson High School for Science & Tech**, Alexandria, Virginia

Work Experience

Aug 2025-*Present* | Associate Professor
Aug 2021-Aug 2025 | Assistant Professor
Aug 2018-Aug 2021 | Term Instructor
George Mason University, Fairfax, Virginia

Full-time teaching professor for Computer Science courses: taught undergraduate courses, including introductory courses such as CS 100 (Principles of Computing); programming courses such as CS 211 (Object Oriented Programming), CS 262 (Low Level Programming), and CS 367 (Systems Programming); and theoretical courses such as CS 330 (Formal Methods and Models) and CS 483 (Analysis of Algorithms). Developed the online graduate course CS 530 (Mathematical Foundations in Computer Science) for the Wiley Online program. Taught both in-person and fully online courses. Served as a contributor on the Undergraduate Studies, ABET Accreditation, and GTA Training Committees.

GTA Coordinator: held primary responsibility for hiring, managing, and training Graduate Teaching Assistants for the entirety of the CS Department.

Jul 2018-Aug 2018 | Adjunct Professor
George Mason University, Fairfax, Virginia

Instructor for HAP618 (Computational Tools in Health Informatics): taught graduate Health Administration and Policy students the fundamentals of computation, including the basics of hardware, software, and programming, in a fully online course.

Jan 2018-May 2018 | Graduate Lecturer
George Mason University, Fairfax, Virginia

Instructor for CS 330 (Formal Methods and Models): taught undergraduate students logic techniques, state machines and automatons, languages and grammars.

Jan 2011-Dec 2017 | Graduate Teaching Assistant
George Mason University, Fairfax, Virginia

Teaching assistant for CS 330 (Formal Methods and Models): helped undergraduate students learn logic techniques, state machines and automatons, languages and grammars. Graded quizzes and programming assignments, prepared solution keys, and in instances taught lectures.

Teaching assistant for CS 684 (Graph Algorithms): helped graduate students learn algorithms and theoretical proof techniques. Graded homework.

Teaching assistant for CS 583 (Analysis of Algorithms): helped graduate students learn algorithms and theoretical proof techniques. Graded projects.

Teaching assistant for CS 211 (Object Oriented Programming): taught a regular lab section to undergraduate students on introductory object oriented programming in Java. Graded quizzes and programming assignments, and in instances taught lectures.

Two-time *Distinguished Graduate Teaching Award* winner

Oct 2009-Jun 2010 | Programmer Analyst
Henry M Jackson Foundation, Fairfax, Virginia

Developed 3D haptic-enabled applications to assist with the evaluation of patients with traumatic head injuries.

Developed PHP-based testing tools.

1997-1998 | Engineer/Programmer
Science Applications International Corp., McLean, Virginia

Assisted in the development of Java-based logistic simulation tools with military applications.

Summer 1994 | System Specialist
Summer 1995 | Science Applications International Corp., Falls Church, Virginia

Programmed an interactive GUI front end to CHCS, a networked medical database system.

Administered the office's local area network, and performed troubleshooting of network and computer problems.

Honors and Awards

May 2025	*2025 Journal of Health Administration Education (JHAE) Best Paper* from Association of University Programs in Health Administration (AUPHA)
May 2022	*Outstanding Teaching Award* as an Assistant Professor at George Mason University
May 2021 May 2012	*Distinguished Academic Achievement Award* from George Mason University
Oct 2025	Nominated, *2026 Mason Teaching Excellence Award*
Oct 2022	Nominated, *2023 Mason Teaching Excellence Award*
Oct 2020	Nominated, *2021 Mason Teaching Excellence Award*
Oct 2019	Nominated, *2020 Mason Teaching Excellence Award*
Oct 2018	Nominated, *2019 Mason Teaching Excellence Award*
May 2015 May 2013	*Distinguished Graduate Teaching Award* as a Graduate Teaching Assistant at George Mason University Two-time award winner.
May 1997	*Brahana Award* from University of Illinois Issued to the most outstanding graduating senior in the field of mathematics.
Dec 1994	Ranked 64^{th} overall on the William Lowell Putnam Mathematical Exam A 6-hour long problem solving contest open to undergraduate students in the US and Canada, and considered by many to be the most prestigious university-level mathematics examination in the world.

Publications

S. Avramovic, **I. Avramovic**, J. Wojtusiak. Exploring the Impact of GitHub Copilot on Health Informatics Education, *Applied Clinical Informatics, Special Issue on Health Informatics Education*, September 13, 2024.

S. Avramovic, **I. Avramovic**. Exploring the Potential Benefits and Limitations of Using an AI Text Generation Tool in Education: An Examination of ChatGPT's Performance on Assessments, *The Journal of Health Administration Education*, 40(2), pp. 193-204, 2024. (**2025 JHAE Best Paper**)

I. Avramovic, D. S. Richards. Rules for Optimal Perpetual Gossiping, in *Proceedings of the 2020 International Conference on Computational Science and Computational Intelligence (CSCI)*, pp. 210-216, Las Vegas, Nevada, December 16, 2020.

I. Avramovic, D. S. Richards. Analysis of consensus sorting via the cycle metric, *Journal of Combinatorial Optimization (special edition)*, March 2020.

I. Avramovic. Routing Sets and Hint-Based Routing, in *Proceedings of the 2019 Future of Information and Communication Conference (FICC)*, pp. 586-602, Springer, San Francisco, California, March 14, 2019.

I. Avramovic, D. S. Richards. Existence of an Optimal Perpetual Gossiping Scheme for Arbitrary Networks, in *Proceedings of the 2019 Future of Information and Communication Conference (FICC)*, pp. 154-163, Springer, San Francisco, California, March 14, 2019.

I. Avramovic, D. S. Richards. NP-completeness of Shortest Leaf-to-Leaf Distance in a Tree, in *Proceedings of the 2019 International Conference on Computing, Networking and Communication (ICNC)*, pp. 747-752, IEEE, Honolulu, Hawaii, February 18-21, 2019.

I. Avramovic, D. S. Richards. Analysis of Consensus Sorting via the Cycle Metric, in *Proceedings of the 2018 International Conference on Combinatorial Optimization and Applications (COCOA)*, pp. 552-565, Springer, Cham, Atlanta, Georgia, December 15, 2018.

F. Alemi, A. ElRafey, **I. Avramovic**. Covariate Balancing through Naturally Occuring Strata, *Health Services Research*, 2016.

I. Avramovic, D. S. Richards. Randomized Sorting as a Big Data Search Algorithm, in *Proceedings of the 2015 International Conference on Advances in Big Data Analytics (ABDA)*, pp. 57-63, Las Vegas, Nevada, July 27-30, 2015.

C. Narber, **I. Avramovic**, Z. Duric, N. L. Gerber, N. Vishnoi. Poster 221: Application of Haptic Technology to Fine Motor Learning in College Students, in *PM&R*, Volume 2, Issue 9, Supplement, p. S100, September 2010.

Presentations

I. Avramovic. Routing Sets and Hint-Based Routing, presented at the *2019 Future of Information and Communication Conference (FICC)*, San Francisco, California, March 14, 2019.

I. Avramovic, D. S. Richards. Existence of an Optimal Perpetual Gossiping Scheme for Arbitrary Networks, presented at the *2019 Future of Information and Communication Conference (FICC)*, San Francisco, California, March 14, 2019.

I. Avramovic, D. S. Richards. Analysis of Consensus Sorting via the Cycle Metric, presented at the *12th Annual International Conference on Combinatorial Optimization and Applications (COCOA 2018)*, Atlanta, Georgia, December 17, 2018.

I. Avramovic. Polynomial Time Solution to the Domino Puzzle, presented at the *SIAM Conference on Discrete Mathematics (DM18)*, Denver, Colorado, June 5, 2018.

I. Avramovic, D. S. Richards. Randomized Sorting as a Big Data Search Algorithm, presented at the *2015 International Conference on Advances in Big Data Analytics (ABDA)*, Las Vegas, Nevada, July 30, 2015.

Technical Skills

Languages, Proficient:	C, C++, Java, Python, PHP, Matlab, AWK, BASH, PROLOG, 80x86 assembly, MySQL, T-SQL
Languages, Familiar:	Perl, JavaScript, Rust, R, LISP, Pascal, FORTRAN, Visual Basic, Flash
Misc Skills:	UNIX/Linux, OpenGL, Android, TCP/IP, HTML/CSS, LaTeX

Projects

1998-1999 Open Source Developer for CrystalSpace 3D SDK

Served as a developer on the open source CrystalSpace 3D software development kit, a modular engine for developing 3D applications which has been in existence since 1997. Contributed 3D geometry code as well as the underlying csObject structure for engine objects.

Personal

Residency:	US Citizen
Marital Status:	Married
Languages:	English (native), Serbian