Curriculum Vitæ: Evan A. Sultanik

Computer Scientist with extensive experience both in industry (as a software engineer and security engineer) and academia. Active contributor to open source software. Specialization in distributed systems, artificial intelligence, and automated program analysis for cyber security. Experience as an expert witness, including software forensics, stylometry, and reverse engineering to assess patent infringement and intellectual property theft. Editor of the International Journal of PoC‖GTFO.

Evan's non-academic résumé is available on his website, here. It is a PDF that, among other things, is also a valid Nintendo Entertainment System ROM that you can emulate in your web browser.

1 Personal Information

Current Positions

Title:	Principal Computer Security Researcher
Institution:	Trail of Bits

Address

Address:	Philadelphia, PA
Telephone:	+1 215 919 7234 (Mobile)
E-Mail:	evan@sultanik.com
URL:	https://www.sultanik.com/

Education

Degree	Date	GPA	School	Majors
Ph.D.	2010, September	3.97	Drexel University	Computer Science
M.S.	2006, June	4.0	Drexel University	Computer Science
B.S.	2006, June	3.48	Drexel University	Mathematics
				Computer Science
				Dual Major, with Honors

Past Affiliations

Title:	Chief Scientist	
Institution:	Digital Operatives, LLC	
Title:	Adjunct Faculty	
Institution:	Drexel University	
Departments:	Computer Science	
Title:	Senior Research Scientist	
Institution:	The Johns Hopkins University	
Laboratories:	Applied Physics Laboratory	(APL)
	http://www.jhuapl.edu/	
	Research and Exploratory Development Department	(REDD)

Title:	Senior Research Scientist	
Institution:	The Johns Hopkins University	
Laboratories:	Applied Physics Laboratory	(APL)
	http://www.jhuapl.edu/	
	Milton S. Eisenhower Research Center	(MERC)

Title:	Doctoral Candidate	
	Research Fellow	
Institution:	Drexel University	
Departments:	Computer Science	
Laboratories:	Applied Communications and Information Networking Institute, *de facto*	(ACIN)
	http://www.acincenter.org/	
	Vision Cognition Laboratory	(VisCog)
	http://viscog.cs.drexel.edu/	
	Data Fusion Laboratory	(DFL)
	http://dfl.ece.drexel.edu/	
	Geometric and Intelligent Computing Laboratory	(GICL)
	http://gicl.cs.drexel.edu/	

Employment Background

Date	Position	Institution
2017–present	Principal Computer Security Researcher	Trail of Bits
2012–2017	Chief Scientist	Digital Operatives, LLC
2012–present	Co-Founder	Alevio LLC
2010–2012	Senior Research Scientist	The Johns Hopkins University Applied Physics Laboratory
2006–2015	Adjunct Faculty	Drexel University Department of Computer Science
2001–2010	Research Fellow	Drexel University Department of Computer Science
2001–2003	Consultant and Independent Contractor	Feith Systems and Software
2001	Independent Contractor	Arch Wireless (Brokered by Feith)
2000	Consultant and Independent Contractor	Pennsylvania Association for Marriage and Family Therapy
1998–2001	Software Engineer	Feith Systems and Software

Languages

LANGUAGE		ABILITY
English		Native
Русский	(Russian)	B1
Medžuslovjansky	(Interslavic)	A2
Latina	(Latin)	A2
Esperanto		A1
עִבְרִית	(Hebrew)	A1
Français	(French)	A1

Professional Societies

Membership		Society
2003–Present		Association for the Advancement of Artificial Intelligence
2004–Present		Association for Computing Machinery
2005–Present		Institute of Electrical and Electronics Engineers
2008–Present		American Association for the Advancement of Science
2008–Present		The eGullet Society for Culinary Arts & Letters
2009–Present		IEEE Communications Society
2016–Present		The Tract Association of PoC‖GTFO and Friends

2 Research, Scholarly, and Creative Activities

2.1 Theses

T2. *Automatic Construction, Maintenance, and Optimization of Dynamic Agent Organizations.*
Ph.D. Dissertation: September 8th, 2010.
Committee: *advisor* William C. Regli (University of Maryland), *advisor* Ali Shokoufandeh (Drexel Universiy Department of Computer Science), *chair* Rachel Greenstadt (Drexel Universiy Department of Computer Science), Jeremy Johnson (Drexel Universiy Department of Computer Science), Sven Koenig (University of Southern California Department of Computer Science), and Joseph P. Macker (U.S. Naval Research Laboratory Networks and Communication Systems Branch)

T1. *Enabling Multi-Agent Coordination in Stochastic Peer-to-Peer Environments.*
Master's Thesis: May 25th, 2006.
Committee: *advisor* William C. Regli (University of Maryland), *advisor* Moshe Kam (New Jersey Institute of Technology), and *advisor* Pragnesh Jay Modi (Drexel Universiy Department of Computer Science)

2.2 Edited Proceedings, Collections, and Books

E4. Travis Goodspeed, Sergey Bratus, Melilot, Evan A. Sultanik, Jacob Torrey, Ange Albertini, and Philippe Teuwen, editors. The Book of PoC‖GTFO, Volume 3. No Starch Press. January, 2021. ISBN: 9781718500648.

E3. Travis Goodspeed, Sergey Bratus, Melilot, Evan A. Sultanik, Jacob Torrey, Ange Albertini, and Philippe Teuwen, editors. The Book of PoC‖GTFO, Volume 2. No Starch Press. August, 2018. ISBN: 978-1-59327-934-9.

E2. Travis Goodspeed, Sergey Bratus, Melilot, Evan A. Sultanik, Jacob Torrey, Ange Albertini, and Philippe Teuwen, editors. The Book of PoC‖GTFO. No Starch Press. August, 2017. ISBN: 978-1-59327-880-9.

E1. Evan A. Sultanik and Robert N. Lass, editors. Proceedings of the Twelfth International Workshop on Distributed Constraint Reasoning (DCR '10). May, 2010.

2.3 Chapters in Books

B3. *Metrics for Multiagent Systems.* Robert N. Lass, Evan A. Sultanik, and William C. Regli. Raj Madhavan, Edward Tunstel, and Elena Messina, editors. In Performance Evaluation and Benchmarking of Intelligent Systems. Springer-Verlag, New York. 2009. ISBN: 978-1-4419-0491-1.

B2. *Agent Transport Simulation for Dynamic Peer-to-Peer Networks.* Evan A. Sultanik, Maxim D. Peysakhov, and William C. Regli. In Multi-Agent-Based Simulation. Lecture Notes in Artificial Intelligence **3891**:162–173, Springer-Verlag, Berlin. July, 2006.

B1. *Service Discovery on Dynamic Peer-to-Peer Networks Using Mobile Agents*. Evan Sultanik and William Regli. In Agents and Peer-to-Peer Computing. Lecture Notes in Computer Science **3601**:132–143, Springer-Verlag, Berlin. July, 2005. ISBN: 3-540-29755-3.

2.4 Journal Publications

J11. *A Digital Mental Health App Incorporating Wearable Biosensing for Teachers of Children on the Autism Spectrum to Support Emotion Regulation: Protocol for a Pilot Randomized Controlled Trial*. Emma H. Palermo, Amanda V. Young, Sky Deswert, Alyssa Brown, Miranda Goldberg, Evan Sultanik, Jessica Tan, Carla A. Mazefsky, Lauren Brookman-Frazee, James C. McPartland, Matthew S. Goodwin, Jeffrey Pennington, Steven C. Marcus, Rinad S. Beidas, David S. Mandell, and Heather J. Nuske. In JMIR Research Protocols, **12**(e45852). June 26$^{\text{th}}$, 2023.

J10. *In Which a PDF is a Git Repository Containing its Own LATEX Source and a Copy of Itself*. Evan A. Sultanik. Reverend Doctor Pastor Manul Laphroaig, editors. In The International Journal of PoC‖GTFO, **14**. The Tract Association of PoC‖GTFO and Friends. June 17$^{\text{th}}$, 2017.

J9. *This PDF is an NES ROM that prints its own MD5 hash!*. Evan A. Sultanik and Evan Teran. Reverend Doctor Pastor Manul Laphroaig, editors. In The International Journal of PoC‖GTFO, **14**. The Tract Association of PoC‖GTFO and Friends. March 20$^{\text{th}}$, 2017.

J8. *Password Weaknesses in Physical Security*. Evan A. Sultanik. Reverend Doctor Pastor Manul Laphroaig, editors. In The International Journal of PoC‖GTFO, **13**. The Tract Association of PoC‖GTFO and Friends. October 18$^{\text{th}}$, 2016.

J7. *Post Scriptum: A Schizophrenic Ghost*. Evan A. Sultanik and Philippe Teuwen. Reverend Doctor Pastor Manul Laphroaig, editors. In The International Journal of PoC‖GTFO, **13**. The Tract Association of PoC‖GTFO and Friends. October 18$^{\text{th}}$, 2016.

J6. *Exploiting Weak Shellcode Hashes to Thwart Module Discovery*. Mike Myers and Evan A. Sultanik. Reverend Doctor Pastor Manul Laphroaig, editors. In The International Journal of PoC‖GTFO, **12**. The Tract Association of PoC‖GTFO and Friends. June 17$^{\text{th}}$, 2016.

J5. *The Treachery of Files*. Evan A. Sultanik. Reverend Doctor Pastor Manul Laphroaig, editors. In The International Journal of PoC‖GTFO, **11**. The Tract Association of PoC‖GTFO and Friends. March 17$^{\text{th}}$, 2016.

J4. *Lenticrypt: a Provably Plausibly Deniable Cryptosystem; or, This Picture of Cats is Also a Picture of Dogs*. Evan A. Sultanik. Reverend Doctor Pastor Manul Laphroaig, editors. In The International Journal of PoC‖GTFO, **4**. The Tract Association of PoC‖GTFO and Friends. June 27$^{\text{th}}$, 2014.

J3. *Development and Specification of a Reference Model for Agent-Based Systems*. William C. Regli, Israel Mayk, Christopher J. Dugan, Joseph B. Kopena, Robert N. Lass, Pragnesh Jay Modi, William M. Mongan, Jeff K. Salvage, and Evan A. Sultanik. In IEEE Transactions on Systems, Man and Cybernetics—Part C, **39**(5):572–596. September, 2009.

J2. *Distributed Coordination of First Responders*. Joseph B. Kopena, Evan A. Sultanik, Robert N. Lass, Duc N. Nguyen, Christopher J. Dugan, Pragnesh J. Modi, and William C. Regli. In IEEE Internet Computing, **12**(1):45–47. Special Issue on "Crisis Management". January–February, 2008.

J1. *Service-Based Computing on Manets: Enabling Dynamic Interoperability of First Responders*. Joe Kopena, Evan Sultanik, Gaurav Naik, Iris Howley, Maxim Peysakhov, Vincent A. Cicirello, Moshe Kam, and William Regli. In IEEE Intelligent Systems, **20**(5):17–25. Special Issue on "Artificial Intelligence in Homeland Security". September–October, 2005.

2.5 Refereed Conference Papers

P29. *Blind Spots: Identifying Exploitable Program Inputs.* Henrik Brodin, Evan Sultanik, and Marek Surovič. In Proceedings of the Eighth Workshop on Language-Theoretic Security at IEEE Security and Privacy. May, 2023, San Francisco, California.

P28. *Automatically Detecting Variability Bugs Through Hybrid Control and Data Flow Analysis.* Kelly Kaoudis, Henrik Brodin, and Evan Sultanik. In Proceedings of the Eighth Workshop on Language-Theoretic Security at IEEE Security and Privacy. May, 2023, San Francisco, California.

P27. *A m-health platform for teachers of children with autism to support emotion regulation.* Heather J. Nuske, Jeffrey Pennington, Matthew S. Goodwin, Evan Sultanik, and David S. Mandell. In Proceedings of the International Society for Autism Research. June 3rd, 2020.

P26. *Toward Automated Grammar Extraction via Semantic Labeling of Parser Implementations.* Carson Harmon, Bradford Larsen, and Evan A. Sultanik. In Proceedings of the Sixth Workshop on Language-Theoretic Security at IEEE Security and Privacy. May, 2020, San Francisco, California (Virtual).

P25. *Rapid Geotagging and Disambiguation of Social Media Text via an Indexed Gazetteer.* Evan A. Sultanik and Clayton Fink. In Proceedings of the International Conference on Information Systems for Crisis Response and Management. April 22nd, 2012, Vancouver, Canada.

P24. *GAIA—A Systems Approach to Manage Climate Disruption Risks in Public Health and Security.* Glen Fountain, Larry Paxton, Michele Weiss, Steven M. Babin, Nathan D. Bos, Maegen G. Nix, Cindy L. Parker, Christina K. Pikas, Giuseppe Romeo, Robert K. Schaefer, Scott D. Simpkins, Shadrian B. Strong, Evan A. Sultanik, and Bill H. Swartz. In Proceedings of the American Geophysical Union Fall Meeting. Poster Paper. September 9th, 2011, San Francisco, California.

P23. *Dominating Sets of Agents in Visibility Graphs: Distributed Algorithms for Art Gallery Problems.* Evan A. Sultanik, Ali Shokoufandeh, and William C. Regli. In Proceedings of the International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS '10). May 13th, 2010, Toronto, Canada. (23.8% acceptance rate.)

P22. *Distributed Scheduling Using Constraint Optimization and Multiagent Path Planning.* Christopher Cannon, Robert Lass, Evan Sultanik, William Regli, David Šišlák, and Michal Pěchouček. In Proceedings of the Twelfth International Workshop on Distributed Constraint Reasoning (DCR '10). May 10th, 2010, Toronto, Canada.

P21. *Dynamic Configuration of Agent Organizations.* Evan A. Sultanik, Robert N. Lass, and William C. Regli. In Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI '09). July 17th, 2009, Pasadena, California, USA. (25.7% acceptance rate.)

P20. *Robust Distributed Constraint Reasoning.* Robert N. Lass, Evan A. Sultanik, Rachel Greenstadt, and William C. Regli. In Proceedings of the Eleventh International Workshop on Distributed Constraint Reasoning (DCR '09). July 13th, 2009, Pasadena, California, USA.

P19. *Constant Cost of the Computation-Unit in Efficiency Graphs for DCOPs.* Marius Silaghi, Robert N. Lass, Evan A. Sultanik, William C. Regli, Toshihiro Matsui, and Makoto Yokoo. In Proceedings of the International Conference on Intelligent Agent Technology (IAT '08). Short Paper. December, 2008, Sydney, Australia. (18% acceptance rate for full papers. 28% acceptance rate for short papers.)

P18. *Measurement Techniques for Multiagent Systems.* Robert N. Lass, Evan A. Sultanik, and William C. Regli. In Proceedings of the Performance Metrics for Intelligent Systems Workshop (PerMIS '08). August, 2008, Gaithersburg, Maryland.

P17. *Dynamic Distributed Constraint Reasoning.* Robert N. Lass, Evan A. Sultanik, and William C. Regli. In Proceedings of the AAAI Conference on Artificial Intelligence (AAAI '08). Poster Paper. July, 2008, Chicago, Illinois. (26% acceptance rate.)

P16. *The Operation Point Units of Distributed Constraint Solvers.* Marius Silaghi, Robert N. Lass, Evan A. Sultanik, William C. Regli, Toshihiro Matsui, and Makoto Yokoo. In Proceedings of the Distributed Constraint Reasoning Workshop (DCR '08). May 13$^{\text{th}}$, 2008, Estoril, Portugal.

P15. *Constant Cost of the Computation-Unit in Efficiency Graphs.* Marius Silaghi, Robert N. Lass, Evan A. Sultanik, William C. Regli, Toshihiro Matsui, and Makoto Yokoo. In Proceedings of the Optimization in Multi-Agent Systems Workshop (OptMas '08). May 12$^{\text{th}}$, 2008, Estoril, Portugal.

P14. *Coordination of First Responders Under Communication and Resource Constraints.* Robert N. Lass, Joseph B. Kopena, Evan A. Sultanik, Duc N. Nguyen, Christopher J. Dugan, and William C. Regli. In Proceedings of the Seventh International Conference on Autonomous Agents and Multiagent Systems (AAMAS '08). May, 2008, Estoril, Portugal.

P13. *Evaluation of CBR on Live Networks.* Robert N. Lass, Evan A. Sultanik, Pragnesh Jay Modi, and William C. Regli. In Proceedings of the Ninth International Workshop on Distributed Constraint Reasoning (DCR '07). September 23$^{\text{rd}}$, 2007, Providence, Rhode Island, USA.

P12. *DCOPolis: A Framework for Simulating and Deploying Distributed Constraint Optimization Algorithms.* Evan A. Sultanik, Robert N. Lass, and William C. Regli. In Proceedings of the Ninth International Workshop on Distributed Constraint Reasoning (DCR '07). September 23$^{\text{rd}}$, 2007, Providence, Rhode Island, USA.

P11. *Analyzing the Performance of Distributed Algorithms.* Robert N. Lass, Evan A. Sultanik, and William C. Regli. In Proceedings of the Performance Metrics for Intelligent Systems Workshop (PerMIS '07). August 30$^{\text{th}}$, 2007, Gaithersburg, Maryland, USA.

P10. *On Modeling Multi-Agent Task Scheduling as a Distributed Constraint Optimization Problem.* Evan A. Sultanik, Pragnesh Jay Modi, and William C. Regli. In Proceedings of the Twentieth International Joint Conference on Artificial Intelligence (IJCAI '07). January 6$^{\text{th}}$, 2007, Hyderabad, India. (15.7% acceptance rate for full papers.)

P9. *Constraint Propagation for Domain Bounding in C_TÆMS Task Scheduling.* Evan A. Sultanik, Pragnesh Jay Modi, and William C. Regli. In Proceedings of the Twelfth International Conference on Principles and Practice of Constraint Programming (CP '06). Poster Paper. September 24$^{\text{th}}$, 2006, Nantes, France.

P8. *Service-Based Computing for Agents on Disruption and Delay Prone Networks.* Joseph B. Kopena, Gaurav Naik, Maxim Peysakhov, Evan Sultanik, and William C. Regli. In Proceedings of the International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS '05). Poster Paper. August, 2005, Utrecht, The Netherlands. (24% acceptance rate for full papers. 23% acceptance rate for poster papers.)

P7. *Stable Service Placement on Dynamic Peer-to-Peer Networks: A Heuristic for the Distributed k-Center Problem.* Evan A. Sultanik and William C. Regli. In Proceedings of the Twentieth National Conference on Artificial Intelligence (AAAI '05). AAAI Press. Poster Paper. July 9$^{\text{th}}$–13$^{\text{th}}$, 2005, Pittsburgh, Pennsylvania, USA. (223 papers and 75 posters accepted out of 803 submissions. 37% acceptance rate for poster papers.)

P6. *Heuristics for Agent Routing and Itinerary Optimization on Dynamic Networks.* Evan A. Sultanik. In Proceedings of the Twentieth National Conference on Artificial Intelligence (AAAI '05). Student Abstract. July, 2005.

P5. *Network Awareness and the Philadelphia Area Urban Wireless Network Testbed.* Joseph B. Kopena, Vincent A. Cicirello, Maxim Peysakhov, Kris Malfettone, Andrew Mroczkowski, Gaurav Naik, Evan Sultanik, Moshe Kam, and William C. Regli. In Proceedings of AAAI Spring Symposia on AI in Homeland Security. 2005.

P4. *Network Awareness for Mobile Agents on Ad Hoc Networks.* Maxim Peysakhov, Donovan Artz, Evan Sultanik, and William Regli. In Proceedings of the Third International Joint Conference on Autonomous Agents and Multi Agent Systems (AAMAS '04). July, 2004, New York, New York. (24.6% acceptance rate for full papers.)

P3. *Mobile Agent-Based Search for Service Discovery on Dynamic Peer-to-Peer Networks.* Evan Sultanik. In Proceedings of the Nineteenth National Conference on Artificial Intelligence (AAAI '04). Student Abstract. July, 2004.

P2. *Architecture and Performance of a Secure Wireless Agent-based Testbed.* Gustave Anderson, Leonardo Urbano, Gaurav Naik, David Dorsey, Andrew Mroczkowski, Donovan Artz, Nicholas Morizio, Andrew Burnheimer, Kris Malfettone, Daniel Lapadat, Evan Sultanik, Saturnino Garcia, Maxim Peysakhov, William Regli, and Moshe Kam. In Proceedings of the Second International Information Assurance Workshop. IEEE. April, 2004. (39% acceptance rate.)

P1. *Secure Mobile Agents on Ad Hoc Wireless Networks.* Evan Sultanik, Donovan Artz, Gustave Anderson, Moshe Kam, William Regli, Max Peysakhov, Jonathan Sevy, Nadya Belov, Nicholas Morizio, and Andrew Mroczkowski. In Proceedings of the Fifteenth Innovative Applications of Artificial Intelligence Conference (IAAI '03). American Association for Artificial Intelligence. August, 2003, Acapulco, Mexico. (23% acceptance rate.)

2.6 Technical Reports

R4. *Are Blockchains Decentralized?.* Evan Sultanik, Alexander Remie, Felipe Manzano, Trent Brunson, Sam Moelius, Eric Kilmer, Mike Myers, Talley Amir, and Sonya Schriner. Trail of Bits. June, 2022.

R3. *Voatz Security Assessment.* Stefan Edwards, Dan Guido, JP Smith, and Evan Sultanik. Trail of Bits. March 12th, 2020.

R2. *A Bound on the Expected Optimality of Random Feasible Solutions to Combinatorial Optimization Problems.* Evan A. Sultanik. The Johns Hopkins University Applied Physics Laboratory. February 3rd, 2014.

R1. *Agent Transport Simulation for Dynamic Peer-to-Peer Networks.* Evan A. Sultanik, Maxim D. Peysakhov, and William C. Regli. Drexel University Technical Report DU-CS-04-02.

2.7 Invited Talks

Date	Title	Location
April 10th, 2024	In Pursuit of Silent Flaws: Dataflow Analysis for Bugfinding and Triage	Purdue University CERIAS Security Seminar
December 12th, 2023	In Pursuit of Silent Flaws: Dataflow Analysis for Bugfinding and Triage	Empire Hacking, New York
September 29th, 2023	"What Next?" Panel	Digital Assets and National Security Conference, Office of the Director of National Intelligence

October 26th, 2022	Unintended Centralities in Distributed Ledgers: What Blockchain Got Right, and What It May Have Gotten Wrong	Drexel Blockchain, Philadelphia
September 13th, 2022	DLT & Research Opportunities	Blockchain and Beyond: National Security Symposium, Naval Postgraduate School
September 12th, 2022	Blockchain, moving from hyperbole to potential	Blockchain and Beyond: National Security Symposium, Naval Postgraduate School
August 6th, 2021	Never a dill moment: Exploiting machine learning pickle files	DEF CON 29 AI Village, Las Vegas, NV
December 19th, 2020	A Sermon on the Indulgences of Computational Sacrifice; The Superabundent Benedictions of Programming an Absurd NES Game	A Midwinter Night's Con
December 11th, 2019	The Treachery of Files, and Two New Tools that Tame It	Empire Hacking, New York
July 25th, 2019	Fantastic Bugs and How to Squash Them; or, The Crimes of Solidity	Philadelphia Ethereum Blockchain Meetup
December 12th, 2018	Anatomy of an Unsafe Smart Contract Programming Language	Empire Hacking, New York
December 5th, 2017	File Polyglottery; or, This Proof of Concept is Also a Picture of Cats	BSides Philadelphia
June 12th, 2012	Emerging Technology Panelist	Available upon request.
June 12th, 2012	Anomalous Signal Detection from Social Media to Support Situation Awareness	Available upon request.
May 6th, 2010	Dominating Sets of Agents in Visibility Graphs: Distributed Algorithms for Art Gallery Problems	ΥΠΕ/CSGSC Student Research Series
March 18th, 2010	Automatic Construction, Maintenance, and Optimization of Dynamic Agent Organizations	The Johns Hopkins University Applied Physics Laboratory
March 20th, 2009	*Ad Hoc* Distributed Computation for Coordination, Optimization, and Organization	Koerner Symposium
October 6th, 2008	A Friendly Introduction to Artificial Intelligence	The Applied Communications and Information Networking Seminar Series
May 14th, 2008	Introduction to the Agent Systems Reference Model	Meeting of the Foundation for Intelligent Physical Agents in Estoril, Portugal
February 7th, 2008	Joe and Evan Kick Your !@#$%, LaTeX Style!	Drexel University Math and Computer Science Society
July 5th, 2007	An Introduction to Distributed Constraint Optimization	Drexel University Math and Computer Science Society
April 13th, 2007	Enabling Distributed Multiagent Coordination	Drexel Engineering Research Symposium
April 28th, 2006	Multi-Agent Planning and Scheduling in Stochastic Peer-to-Peer Environments	Drexel University Center for Telecommunications and Information Networking Seminar Series

February 7th, 2005   Enabling Information Dissemination   Drexel University Center for
on Dynamic Peer-to-Peer Networks   Telecommunications and Information
Networking Seminar Series

2.8   Exhibits, Performances, Demonstrations, and other Creative Activities

D20. *PolyFile, PolyTracker, Graphtage, and Fickling.* The Sensor Open Systems Architecture Consortium, October 5th, 2023, Chantilly, VA.

D19. *Safe Documents.* DARPA Demo Day, October 5th, 2023, The Pentagon.

D18. *Never a dill moment: Exploiting machine learning pickle files.* DEF CON 29 AI Village, August 6th, 2021, Las Vegas, NV.

D17. *Automatic Entity Recognition Identifying Antennas Locally.* DARPA I2O Demo Day, May 21st, 2014, The Pentagon.

D16. *Unsupervised Extraction of Situation Awareness Information from Social Media for Emergency Management.* Proceedings of the International Conference on Information Systems for Crisis Response and Management, April 24th, 2012, Vancouver, Canada.

D15. *Human-Robot Collaboration for Remote Surveillance.* AAAI Intelligent Systems Demonstration Program (AAAI '08), July 13th–17th, 2008, Chicago, Illinois.

D14. *DCOPolis: a Framework for Simulating and Deploying Distributed Constraint Reasoning Algorithms.* The International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS '08), May 12th–16th, 2008, Estoril, Portugal.

D13. *Disaster Evacuation Support.* AAAI Intelligent Systems Demonstration Program (AAAI '07), July 22nd–26th, 2007, Vancouver, British Columbia.

D12. *Disaster Evacuation Support.* The International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS '07), May 14th–18th, 2007, Honalulu, Hawaii.

D11. *SWAT: A Secure Wireless Agent Testbed.* IEEE/AFCEA Military Communications Conference, October 17th–21st, 2005, Atlantic City, New Jersey.

D10. *The SINCE Experiment in the C4ISR "On the Move Testbed".* United States Army Communications and Electronics Command, August 8th–11th, 2005, Fort Dix, New Jersey.

D9. *The AI Technologies of the Philadelphia Area Urban Wireless Testbed.* AAAI Intelligent Systems Demonstration Program (AAAI '05), July, 2005, Pittsburgh, Pennsylvania.

D8. *SWAT: A Secure Wireless Agent Testbed.* The International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS '04), July, 2004, New York, New York.

D7. *SWAT: A Secure Wireless Agent Testbed.* AAAI Intelligent Systems Demonstration Program (AAAI '04), July, 2004, San Jose, California.

D6. *SWAT: A Secure Wireless Agent Testbed.* United States Army Communications and Electronics Command Research, Development and Engineering Command, June 23rd, 2004.

D5. *SWAT: A Secure Wireless Agent Testbed.* United States Army Communications and Electronics Command Research, Development and Engineering Command, June 3rd, 2004.

D4. *SWAT: A Secure Wireless Agent Testbed.* The International Conference on Planning and Scheduling Demonstration Program (ICAPS '04), June, 2004, Whistler, British Columbia.

D3. *SWAT: A Secure Wireless Agent Testbed.* The Fifth IEEE Workshop on Mobile Computing Systems Applications, October 9ᵗʰ–10ᵗʰ, 2003, Monterey, California.

D2. *SWAT: A Secure Wireless Agent Testbed.* The Ninth Annual International Conference on Mobile Computing and Networking (MobiCom '03), September 14ᵗʰ–19ᵗʰ, 2003, San Diego, California.

D1. *SWAT: A Secure Wireless Agent Testbed.* United States Army Communications and Electronics Command Research, Development and Engineering Command, April 30ᵗʰ, 2003.

2.9   Original Plans, Designs, Inventions and Patents

Date	Description
2021	**It-Depends**
	It-Depends is a tool to automatically build a dependency graph and Software Bill of Materials (SBOM) for packages and arbitrary source code repositories. You can use it to enumerate all third party dependencies for a software package, map those dependencies to known security vulnerabilities, as well as compare the similarity between two packages based on their dependencies. `https://github.com/trailofbits/it-depends`
2020	**Graphtage**
	A semantic diff utility and library for tree-like files such as JSON, JSON5, XML, HTML, YAML, and CSV. `https://github.com/trailofbits/graphtage`
2019	**PolyTracker**
	An LLVM-based universal taint and data-flow analysis instrumentation framework. `https://github.com/trailofbits/polytracker`
2019	**PolyFile**
	A cleanroom, pure-Python implementation of libmagic that can identify files, is smart about polyglots (files that are multiple types at the same time), can output an interactive HTML-based hex viewer, and recursively enumerate the contents of a file (similar to binwalk). `https://github.com/trailofbits/polyfile`
2019	**solc-select**
	Evan is the creator of the original version of solc-select: A tool to quickly switch between Solidity compiler versions. `https://github.com/crytic/solc-select`
2018	**Etheno**
	Etheno is the Ethereum testing Swiss Army knife. It's a JSON RPC multiplexer, analysis tool wrapper, and test integration tool. It eliminates the complexity of setting up analysis tools like Manticore and Echidna on large, multi-contract projects. In particular, custom Manticore analysis scripts require less code, are simpler to write, and integrate with Truffle. `https://github.com/crytic/etheno`
2017	**PDF/Git Polyglot**
	A file that is simulaneously a valid PDF as well as a git repository that, when cloned, contains its own LaTeX source code and a copy of itself. `https://github.com/ESultanik/PDFGitPolyglot`
2017	**Efficient Distributed Algorithm For The Location Design And Routing Problem**
	US patent number US9596125 B2.
2014	**Lenticrypt: a Provably Plausibly Deniable Cryptosystem**
	`https://github.com/ESultanik/lenticrypt`
2011	**A Simple and Efficient Framework for Infinite Resolution Simulation**
	Provisional US patent filing.
2009	**JTi*k*Z**

A Java AWT/Swing Graphics drop-in replacement that renders to the Ti*k*Z/PGF LaTeX language.
`http://jtikz.sourceforge.net/`

2007 **DCOPolis**
A framework for simulating and deploying distributed constraint reasoning algorithms.
See article **P12** and demonstration **D14**.
`http://dcopolis.org/`

2006 **exam.cls**
A LaTeX class file for easing the generation of exams, quizzes, and answer sheets (intended for instructors).

2006 **A Simple and Efficient Framework for Infinite Resolution Simulation** (Sefirs)
Sefirs provides a Java Thread-like class that executes over simulated time.
`http://sefirs.sourceforge.net/`

2005 **The Fast Locomotive Escape Expert**
A stereo vision system for inexpensive consumer hardware, with applications in robot navigation.
`http://www.fleebot.com/`

2005 **Résumé and Curriculum Vitæ Stylesheets**
A series of XSL transforms, LaTeX class files and HTML templates for automatically converting a single XML-based representation of one's curriculum vitæ into a condensed résumé, full CV (in PDF), and also representations in HTML and plain text. It was used to automatically typeset this document!

2004 **BasicPlay**
Software music synthesizer for Basic's "PLAY" language.
`http://freshmeat.net/projects/basicplay/`

2003 **Macro Agent Transport Event-based Simulator** (MATES)
Discrete event simulator for mobile agent systems running on dynamic, peer-to-peer networks.
See articles **R1**, **B2**, and **T1**.
`http://mates.sourceforge.net/`

2003 **Evan Sultanik's Semi-Comprehensive Guide to Philadelphia Area Dining**
`http://restaurants.sultanik.com/`

2003 **Text-Based Intuitive Personal Information Organizer** (Tipio)
`http://tipio.sourceforge.net/`

2.10 Technical Competencies

Able to quickly learn new programming languages and APIs.

Operating Systems NeXT [23 years], BeOS/Haiku [26 years], BSD (FreeBSD, OpenBSD) [27 years], Linux (Gentoo, Ubuntu, Fedora, Arch) [28 years], Windows [32 years], macOS [32 years]

Languages Go [3 years], Rust [3 years], Swift [5 years], Ethereum Virtual Machine [6 years], Solidity [6 years], 6502 Assembly [8 years], ARMv7 [10 years], LLVM/IR [11 years], Modern C++ [11 years], GolfScript [14 years], BF [18 years], ML [20 years], TLA+ [20 years], Postscript [21 years], Python [21 years], MIPS [22 years], Prolog [22 years], STRIPS/PDDL [22 years], VHDL [22 years], x86 Assembly [22 years], TeX/LaTeX [23 years], Java [23 years], Lisp/Scheme [23 years], XML/XSLT [23 years], PHP [24 years], PL/SQL [26 years], Bash [27 years], C/C++ [27 years], Perl [27 years], Javascript [28 years]

Applications/APIs CodeQL [2 years], Semgrep [2 years], FastAPI [5 years], AWS/boto3 [9 years], Docker [9 years], Ruby [9 years], RabbitMQ [10 years], SMT/STP/Z3 [11 years], Hadoop [13 years], Lucene [13 years], Mahout [13 years], clang/LLVM [15 years], MediaWiki (plugin development) [16 years], NetworkX [16 years], numpy/scipy [18 years], OpenCV [19 years], SAS [19 years], ACT-R [20 years], Drupal (plugin development) [20 years], Rainbow [20 years], Weka [20 years], Ethereal/Wireshark [21 years], Kismet [21 years], OpenGL [21 years], SDL [21 years], graphviz [22 years], Maple [23 years], Matlab/Octave [23 years], gnuplot [23 years], Apache [25 years], gcc [27 years]

2.11   Inane Metrics

Endre Szemerédi
János Komlós

Erdős Number[1] ≤ 3: Pál Erdős $\rightarrow$ Miklós Simonovits $\rightarrow$ Ali Shokoufandeh $\rightarrow$ Evan Sultanik.

Bacon Number ≤ 3: Kevin Bacon $\xrightarrow{\text{Live in Front of a Studio Audience: "All in the Family" and "Good Times" (2019)}}$
Anthony Anderson $\xrightarrow{\text{Hoodwinked! (2005)}}$ Troy Norton $\xrightarrow{\text{Building Character: Episode BDC-407 (2004)}^{\dagger}}$ Evan Sultanik.
   † Television show.

Erdős-Bacon Number ≤ 6.

3   Fellowships, Prizes and Awards

Date	Award	Institution/Organization
2012	Stuart S. Janney Publication Grant	The Johns Hopkins University APL
2012	Government Purpose Innovation Award Nomination	The Johns Hopkins University APL
2010	Graduate Student Research Award	Drexel University College of Engineering
2008	Jay Modi Memorial Award	Drexel University Department of Computer Science
2008	Koerner Family Fellowship	Drexel University College of Engineering
2007	George Hill, Jr. Endowed Fellowship	Drexel University College of Engineering
2007	Graduate Research Fellowship Honorable Mention	National Science Foundation
2006	Provost Fellowship	Drexel University
2006	Graduate Research Fellowship Honorable Mention	National Science Foundation
2006	Undergraduate Award Honorable Mention	Computing Research Association
2005	Undergraduate Student Research Award	Drexel University College of Engineering
2004	Membership	Upsilon Pi Epsilon ($\Upsilon\Pi$E) International Honor Society
2003	Scholarship	Drexel University BS/MS
2002	Membership	National Society of Collegiate Scholars
2002	Membership	Phi Eta Sigma (ΦNΣ) National Honor Society
2001	Scholarship	A. J. Drexel
2001	Rank of Eagle Scout	Boy Scouts of America
2001	Associate Membership	National Science and Technology Honor Society

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[1]Note that this is also what is called a *monotone Erdős sequence*[2].

[2]*Figures of Merit*. Martin Tompa, ACM SIGACT News, **20**(1):62–71. Winter, 1989.

4 Teaching and Advising

4.1 Courses Taught

Semester	Title	Level	Capacity
Winter 2013	CS610: *Advanced Artificial Intelligence*	Graduate	Adjunct Professor
Fall 2012	CS510: *Artificial Intelligence*	Graduate	Adjunct Professor
Winter 2011	CS610: *Advanced Artificial Intelligence*	Graduate	Adjunct Professor
Fall 2010	CS510: *Artificial Intelligence*	Graduate	Adjunct Professor
Winter 2008	CS481: *Advanced Artificial Intelligence*	Undergraduate	Guest Lecturer
Fall 2007	CS380: *Introduction to Artificial Intelligence*	Undergraduate	Instructor

➥ Course/Faculty Assessment (6/24 Students Responded)	Avg.	Std. Dev.
The course objectives and requirements were clearly communicated	4.5	0.5
What is your overall rating of the course? (5 = outstanding, 1 = poor)	4.83	0.37
The instructor was well prepared for the lectures	4.00	0.82
The instructor's communication skills were good	4.33	0.94
The instructor's attitude toward the students was positive and helpful	4.50	0.50
The instructor provided timely feedback on student performance	4.17	0.69
What is your overall rating of the instructor? (5=outstanding, 3=average, 1=poor)	4.33	0.75

5 = Very Great Extent, 4 = Great Extent, 3 = Moderate Extent, 2 = Limited Extent, 1 = Not At All

Fall 2006	CS380: *Introduction to Artificial Intelligence*	Undergraduate	Instructor

➥ Course/Faculty Assessment (12/22 Students Responded)	Avg.	Std. Dev.
The course objectives and requirements were clearly communicated	4.82	0.39
What is your overall rating of the course? (5 = outstanding, 1 = poor)	4.45	0.66
The instructor was well prepared for the lectures	4.36	0.64
The instructor's communication skills were good	4.55	0.66
The instructor's attitude toward the students was positive and helpful	4.82	0.39
The instructor provided timely feedback on student performance	4.64	0.48
What is your overall rating of the instructor? (5=outstanding, 3=average, 1=poor)	4.64	0.48

5 = Very Great Extent, 4 = Great Extent, 3 = Moderate Extent, 2 = Limited Extent, 1 = Not At All

Fall 2006	CS510: *Artificial Intelligence*	Graduate	Guest Lecturer

5   Service

Date	Activity
2016–present	Editor and Reviewer for the International Journal of PoC‖GTFO.
2012	Reviewer for the Journal of Autonomous Agents and Multi-Agent Systems.
2011	Reviewer for the Journal of Autonomous Agents and Multi-Agent Systems.
2011	Program Committee member for the Military Communications Conference (MILCOM).
2011	Program Committee member for the International Workshop on Distributed Constraint Reasoning.
2011	Facilitator for the Global Assimilation of Information for Action Workshops (`http://gaia.jhuapl.edu/`).
2011	Program Committee member for the AAAI Conference on Artificial Intelligence.
2011	Program Committee member for the International Workshop on Optimisation in Multi-Agent Systems.
2011	Program Committee member for the International Joint Conference on Autonomous Agents and Multiagent Systems.
2010	Co-chair of the International Workshop on Distributed Constraint Reasoning.
2010	External reviewer for the Journal of Artificial Intelligence Research.
2009	External reviewer for The International Journal for Computers and Their Applications.
2009	Reviewer for the Privacy Enhancing Technologies Symposium.
2009	Reviewer for the Performance Metrics for Intelligent Systems Workshop.
2008	Reviewer for the International Joint Conference Autonomous Agents and Multiagent Systems.
2007	Reviewer for the International Joint Conference on Artificial Intelligence.
2006	Reviewer for the ACM/IEEE International Symposium on Modeling, Analysis and Simulation of Wireless and Mobile Systems.
2006–2009	President of the Drexel University Computer Science Graduate Student Council[3].
2004	Chartering member of Drexel University chapter of the IEEE Computer Society.
2000–2001	Assistant Scoutmaster for Boy Scout Troop 133.

6   Other

DoD and DoJ clearance information available upon request.; and Violinist (for over 35 years).

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[3]`http://csgsc.cs.drexel.edu/`

7 References

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A   Academic Genealogy