Oshani Seneviratne

Director of Health Data Research

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EDUCATION

2009 May – 2014 Aug:
PhD in Computer Science
MIT, USA
Supervisor: Sir. Tim Berners-Lee
Committee: Lalana Kagal, Hal Abelson, Daniel J. Weitzner, Susan Landau
Thesis: "Accountable Systems: Enabling Appropriate Use of Information on the Web"

2007 Sep – 2009 May:
Masters in Computer Science
MIT, USA
Supervisor: Sir. Tim Berners-Lee
Thesis: "Policy Aware Content Reuse on the Web"

2003 Jun – 2007 July:
B.Sc. (Hons) in Computer Science and Engineering
University of Moratuwa (UoM), Sri Lanka
Supervisor: Dr. Chathura Silva
Final Year Project: "Lohitha: Blood Cell Recognizer and Analyzer"

WORK EXPERIENCE

2017 Aug – Present:
Director of Health Data Research, Rensselaer Polytechnic Institute
I am responsible for operationalizing the research work in the IBM Research funded Health Empowerment through Analytics, Learning, and Semantics (HEALS) project.

2014 Sep – 2017 Jun:
Senior Software Engineer / Tech Lead, Oracle
I architected provenance-tracking systems for several software products, including the Enterprise Governance Risk Compliance, the Human Capital Management, and Work-Life Applications. I also created a Semantics Validation System for the OWL files used to model business objects and processes.

Furthermore, I led a team that integrated fitness trackers for work-life applications via REST services and semantic representations.

2007 Sep – 2014 Aug:

Research Assistant
Decentralized Information Group, MIT CSAIL
I researched privacy, accountability, and content reuse on the Web as part of my Masters and Doctoral thesis. As a result, I architected HTTPA (HyperText Transfer Protocol with Accountability), and created tools such as the Semantic Clipboard for policy-aware content reuse. I also worked on the implementation and extension of a linked data browser called The Tabulator, and a framework to help manage disasters called Punya, built on the MIT App Inventor.

2012 & 2011 Summer:

Lead Technology Instructor
MIT Accelerating Information Technology Innovation
I conducted intensive summer programs on mobile application development as part of the MIT Accelerating Information Technology Innovation (AITI), now known as the MIT Global Startup Labs (GSL). The programs were held at Swathmore University, Nairobi, Kenya in 2011, and at the University of the Philippines Diliman, Manila in 2012.

2006 Feb – 2006 Jul:

Software Engineering Intern, WSO2
I developed the 'StAX/OM parser' to parse Web Services Description Language (WSDL) documents. The library I contributed is included in the open-source Apache Axis2 distribution and used in many enterprise middleware platforms in operation today.

TEACHING EXPERIENCE

- **Courses:**
    - AI in Fact and Fiction (2020 and 2021 summers)
    - MIT Global Startup Labs (2011 and 2012 summers)
    - MIT Women's Technology Program (2010 summer)

- **Guest Lectures:**
    - Data Analytics Research Lab (2021 Fall)
    - Advanced Financial Technologies (2021 Spring)
    - Predictive Modeling (2020 Spring)
    - Data Analytics (2019 Spring, 2019 Fall, 2020 Spring, 2020 Fall, 2021 Spring, 2021 Fall)
    - XInformatics (2019 Spring, 2020 Spring, 2021 Spring)
    - Introduction to Artificial Intelligence (2019 Spring)
    - Ontology Engineering (2018 Fall)
    - Data Science (2018 Fall)

- o Web Systems classes (2018 Fall)
- o Cognitive Computing (2018 and 2019 Spring)

- **Teaching Assistantships:**
  - o Linked Data Ventures; 2010 Jan, 2011 Fall & 2013 Spring
  - o MIT 6.042-Mathematics for Computer Science; 2011 Spring

INVITED TALKS

Distributed Ledger Technologies:
- "Social Computing and Blockchain: From Incentive Mechanisms to Computer-supported Cooperative Work," The 3rd International Conference of Social Computing; Hosted by School of Social Sciences, Tsinghua University, China; December 2021.
- "Spark Webinar: An Introduction to Research Opportunities in Distributed Ledger Technologies." Hosted by Prof. Suranga Nanayakkara; December 2020; https://www.youtube.com/watch?v=scpvQl86xdA
- "Decentralized Applications Augmented with Learning and Semantics"
  - o Deakin University, Melbourne Australia; November 2019; Hosted by Dr. Niroshinie Fernando, and Dr. Jong Jeong
  - o University of Auckland SoCS Seminar; October 2019; Hosted by Prof. Danielle Lottridge and Prof. Rizwan Asghar
- "Building Smart Trustworthy Decentralized Applications", DePaul University's Computer Science Colloquiu; Hosted by by Prof. Isuru Godage, September 2019
- "Smart Contracts in Financial Applications", Rensselaer Polytechnic Institute's Center for Financial Studies (CFS) Quantitative Finance Workshop 2019; Hosted by Prof. Aparna Gupta, September 2019

Privacy and Transparency on the Web:
- "Enabling Appropriate Use of Information on the Web", Harvey Mudd College Computer Science Colloquium; Hosted by Prof. Robert Keller and Prof. Yi-Chieh Wu, April 2017
- "Healthcare Privacy and Intellectual Property Rights Protection with Information Accountability", at Data Privacy Lab, Harvard University, May 2014
- "Who? What? When? Where and Why? Towards Transparent Healthcare Applications" at 2014 EITA Conference on New Media and Biomedical Research at MIT, August 2014
- "Accountable Systems" at TWed RPI, April 2014
- "Transparent Web Systems" at Amazon PhD Symposium, November 2013
- "Decentralized Provenance Management for User Managed Access" for the IETF OAuth 2.0 working group, November 2013
- "Policy Aware Content Reuse" at Emerging Information and Technology Association – Young Investigator Conference, August 2013
- "Accountable Web Protocols" at Library of Congress, May 2012
- "Addressing and Identifying Privacy Leakage from Query Logs: An Accountability Approach" at Microsoft Research, June 2011
- "Detecting Creative Commons Attribution License Violations on Flickr Images on the World Wide Web" at the Creative Commons Summit, December 2008

Knowledge Graphs:
- "FoodKG: A Semantics Driven Knowledge Graph for Food Recommendations," IEEE Big Data 2019 Workshop on Big Food and Nutrition Data Management Analysis, December 09, 2019
- "Enabling Trust in Clinical Decision Support Recommendations through Semantics," University of Melbourne, Melbourne Australia; November 2019; Hosted by Prof. Karin Verspoor
- "RDF-Powered Dialog Systems," TWed RPI, October 2017

Mobile Application Development:
- "Linked Data Connections" at MIT App Inventor Summit, July 2013
- "Android Application Development" at Google DevFest, Manila, Philippines, Aug 2012

Community Outreach:
- Keynote Speech at "Computer Science for All Girls," Auburn University, Alabama, July 2013

INVITED PANELS

- [Technology Enablers for Financial Instruments](#) at IEEE Services 2021 Conference, Sep 9 2021 virtual)
- MIT Electrical Engineering and Computer Science Alumni Panel, organized by Prof. Leslie Kolodziejski, March 6 2021 (virtual)
- AI for Humanitarian Technologies and Disaster Management at the AAAI AI for Social Good Fall 2020 symposium, Nov 14 2020 (virtual)
- AI for Healthcare at the AAAI AI for Social Good Fall 2020 symposium, Nov 13 2020 (virtual)
- Expert Panel on Semantic Machine Learning at IEEE International Conference on Semantic Computing 2019, Newport Beach CA, Feb 01 2019
- "The Future of Blockchain", Expert Panel at the Rensselaer Silicon Valley Executive Council moderated by Dean Curt Breneman; San Jose CA; Dec 5 2018; Link: https://giving.rpi.edu/western-digital-rensselaer-panel-discussion-blockchain
- "Applying lessons learnt from Web Science Research to Blockchain Research", Closing Panel at the *10 years of Web Science: Closing the Loop*, Dagstuhl Workshop, June 2018

PUBLICATIONS

Books:
- "Linking the world's information: Tim Berners-Lee's invention of the world wide web"; ACM Turing Award Winner Book Series, co-edited with James A. Hendler (in progress).
- "Knowledge Graphs and RDF Data Provenance: AI Actions with Machine-Interpretable Data"; Springer book series on Advanced Information & Knowledge Processing (2020); co-edited with Leslie Sikos and Deborah L. McGuinness.

Peer Reviewed Book Chapters:

- "Health Data Management for Internet of Medical Things," Oshani Seneviratne. In Women Securing the Future with TIPPSS for Connected Healthcare Trust, Identity, Privacy, Protection, Safety, and Security, Springer 2021.
- "Data Provenance and Accountability on the Web." Oshani Seneviratne. In Knowledge Graphs and RDF Data Provenance: AI Actions with Machine-Interpretable Data"; Springer book series on Advanced Information & Knowledge Processing (2020)
- "Foundations of Explainable Knowledge-Enabled Systems," Shruthi Chari, Dan Gruen, Oshani Seneviratne, Deborah L. McGuinness. In: Ilaria Tiddi, Freddy Lecue, Pascal Hitzler (eds.), Knowledge Graphs for eXplainable AI -- Foundations, Applications and Challenges. Studies on the Semantic Web, IOS Press, Amsterdam, 2020
- "Directions for Explainable Knowledge-Enabled Systems," Shruthi Chari, Dan Gruen, Oshani Seneviratne, Deborah L. McGuinness. In: Ilaria Tiddi, Freddy Lecue, Pascal Hitzler (eds.), Knowledge Graphs for eXplainable AI -- Foundations, Applications and Challenges. Studies on the Semantic Web, IOS Press, Amsterdam, 2020
- "Making Computer Science Attractive to High School Girls with Computational Approaches: A Case Study," Oshani Seneviratne, Emerging Research, Practice, and Policy on Computational Thinking, Springer Educational Communications Technology Issues Innovations, ISBN 978-3-319-52690-4, 2017.

Magazine Articles:
- "Reflections on Successful Research in Artificial Intelligence," AI Magazine 40, no. 4 (2019)
  - "An Introduction" Ching-Hua Chen, Jim Hendler, Sabbir Rashid, Oshani Seneviratne, Daby Sow, and Biplav Srivastava.
  - "An Interview with Yolanda Gil." Yolanda Gil, Biplav Srivastava, Ching-Hua Chen, and Oshani Seneviratne. AI Magazine 40, no. 4 (2019).
  - "An Interview with Arvind Gupta." Arvind Gupta, Biplav Srivastava, Daby Sow, Ching-Hua Chen, and Oshani Seneviratne.

Peer Reviewed Conference and Journal Papers:
- "Incentivized Research Data Sharing, Reusing and Repurposing with Blockchain Technologies." Oshani Seneviratne and Deborah L. McGuinness. Hawaii International Conference on System Sciences (HICSS) 2022.
- "Data-driven Analysis of Remote Work in China during the COVID-19 Pandemic." Yufei Wu, Thilanka Munasinghe, Lydia Manikonda, and Oshani Seneviratne. Hawaii International Conference on System Sciences (HICSS) 2022.
- "BlockIoT-RETEL: Blockchain and IoT Based Read-Execute-Transact-Erase-Loop Environment for Integrating Personal Health Data." Manan Shukla, Jianjing Lin, Oshani Seneviratne. IEEE Blockchain Conference 2021.
- "BlockIoT: Blockchain-based Health Data Integration using IoT Devices." Manan Shukla, Jianjing Lin, Oshani Seneviratne. American Medical Informatics Association (AMIA) Annual Conference 2021.
- "The Punya Platform: Building Mobile Research Apps with Linked Data and Semantic Features." Evan W. Patton, William Van Woensel, Oshani Seneviratne, Giuseppe Loseto, Floriano Scioscia, Lalana Kagal. ISWC 2021: 563-579

- "Identifying Ingredient Substitutions Using a Knowledge Graph of Food." Sola S. Shirai, Oshani Seneviratne, Minor E. Gordon, Ching-Hua Chen, Deborah L. McGuinness; Frontiers in Artificial Intelligence, section AI in Food, Agriculture and Water, 2020

- "A Descriptive Analysis of US Initial Coin Offerings"; Aparna Gupta, Jyothsna Harithsa, Oshani Seneviratne; BRAINS 2020

- "Swarm Contracts: Smart Contracts in Robotic Swarms with Varying Agent Behavior"; Jonathan Grey, Isuru S. Godage, Oshani Seneviratne; IEEE Blockchain 2020:

- "Knowledge Extraction of Cohort Characteristics in Research Publications"; Jay D. S. Franklin, Shruthi Chari, Morgan A. Foreman, Oshani Seneviratne, Daniel M. Gruen, James P. McCusker, Amar K. Das, Deborah L. McGuinness; American Medical Informatics Association (AMIA) Annual Conference 2020

- "Explanation Ontology: A Model of Explanations for User-Centered AI"; Shruthi Chari, Oshani Seneviratne, Daniel M. Gruen, Morgan A. Foreman, Amar K. Das, Deborah L. McGuinness; Resource Track,19th International Semantic Web Conference 2020

- "A Proposal for Account Recovery in Decentralized Applications"; Yanlin Zhu, Lirong Xia, Oshani Seneviratne; IEEE Blockchain Conference 2019

- "Making Study Populations Visible through Knowledge Graphs"; Shruthi Chari, Miao Qi, Nkcheniyere N. Agu, Oshani Seneviratne, James P. McCusker, Kristin P. Bennett, Amar K. Das, Deborah L. McGuinness; International Semantic Web Conference 2019 (Resource)

- "FoodKG: Semantics-Driven Knowledge Graph for Food Recommendation"; Steven Haussmann, Oshani Seneviratne, Yu Chen, Yarden Ne'Eman, James Codella, Ching-Hua Chen, Deborah L. McGuinness, Mohammed J. Zaki; International Semantic Web Conference 2019 (Resource)

- "Strengthening Smart Contracts to Handle Unexpected Situations"; Shuze Liu, Farhad Mohsin, Lirong Xia, Oshani Seneviratne; IEEE International Conference on Decentralized Applications and Infrastructures 2019

- "Leveraging Standards Based Ontological Concepts in Distributed Ledgers: A Healthcare Smart Contract Example"; Mengyi Li, Lirong Xia, Oshani Seneviratne; IEEE International Conference on Decentralized Applications and Infrastructures 2019

- "A Semantic Platform for Developing Data-Intensive Mobile Apps"; Weihua Li, Oshani Seneviratne, Evan Patton, and Lalana Kagal; IEEE International Conference on Semantic Computing 2019

- "Knowledge Integration for Disease Characterization: A Breast Cancer Example"; Oshani Seneviratne, Sabbir M. Rashid, Shruthi Chari, James P. McCusker, Kristin P. Bennett, James A. Hendler, and Deborah L. McGuinness; International Semantic Web Conference 2018

- "Enabling Privacy Through Transparency"; Oshani Seneviratne, and Lalana Kagal (IEEE Privacy Security and Trust 2014)

- "Augmenting the Web with Accountability"; Oshani Seneviratne; World Wide Web Conference 2012

- "Usage Restriction Management for Accountable Data Transfer on the Web"; Oshani Seneviratne, and Lalana Kagal; IEEE International Symposium on Policies for Distributed Systems and Networks 2011

- "Remix Culture on the Web: A Survey of Content Reuse on Different User Generated Content Websites"; Oshani Seneviratne, and Andre Monroy-Hernendez; Web Science Conference 2010

- "Policy Aware Geospatial Data", Puneet Kishor, Oshani Seneviratne and Noah Giansiracusa; ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems 2009
- "Policy Aware Content Reuse on the Web"; Oshani Seneviratne, Lalana Kagal, and Tim Berners-Lee; International Semantic Web Conference 2009

Selected Peer Reviewed Workshop Papers:

- "Towards a Framework for Data Excellence in Data-Centric AI: Lessons from the Semantic Web." Oshani Seneviratne, Oktie Hassanzadeh, Daniel Gruen, Jamie P. McCusker, Deborah L. McGuinness. Data-centric AI Workshop, NeurIPS 2021.
- "Blockchain-Based Mechanism for Robotic Cooperation Through Incentives: Prototype Application in Warehouse Automation." Jonathan Grey, Oshani Seneviratne, and Isuru Godage. Third International Conference on Advances in AI for Blockchain (AIChain) 2021.
- "Personal Health Knowledge Graph for Clinically Relevant Diet Recommendations," Oshani Seneviratne, Jonathan Harris, Ching-Hua Chen, Deborah L. McGuinness. Workshop on Personal Knowledge Graphs Co-located with the 3rd Automatic Knowledge Base Construction Conference (AKBC'21).
- "Smart Contracts Enabling Future of Work." Oshani Seneviratne, Jonathan Grey, Isuru Godage. Workshop on Near Future of Work at the 13th ACM Web Science Conference 2021.
- "Applying Personal Knowledge Graphs to Health." Sola Shirai, Oshani Seneviratne, Deborah L. McGuinness. Personal Health Knowledge Graph Workshop at the Knowledge Graph Conference 2021.
- "Semantic Modeling for Food Recommendation Explanations"; Ishita Padhiar, Oshani Seneviratne, Shruthi Chari, Dan Gruen, and Deborah McGuinness; Data Engineering Meets intelligent food and Cooking Recipes (DECOR) Workshop 2021 at the International Conference on Data Engineering
- "Leveraging Clinical Context for User-Centered Explainability: A Diabetes Use Case." Shruthi Chari, Prithwish Chakraborty, Mohamed Ghalwash, Oshani Seneviratne, Elif K. Eyigöz, Daniel M. Gruen, Fernando Suarez Saiz, Ching-Hua Chen, Pablo Meyer Rojas, Deborah L. McGuinness. Data Science in Health Workshop at KDD 2021.
- "Personal Health Data Integration and Intelligence through Semantic Web and Blockchain Technologies"; Oshani Seneviratne, Manan Shukla and Jianjing Lin; International Workshop on AI in Health: Transferring and Integrating Knowledge for Better Health 2021 at KDD
- "Designing for AI Explainability in Clinical Context"; Daniel M. Gruen, Shruthi Chari, Morgan A. Foreman, Oshani Seneviratne, Rachel Richesson, Amar K. Das, Deborah L. McGuinness, AAAI 2021 Workshop: Trustworthy AI for Healthcare
- "Semantic Graph Analysis to Combat Cryptocurrency Misinformation on the Web"; Daniel Kazenoff, Oshani Seneviratne, Deborah L. McGuinness; SEMIFORM2020 Workshop at the International Semantic Web Conference
- "A Survey on Personal Health Knowledge Graphs". Sola S. Shirai, Oshani Seneviratne, Deborah L. McGuinness. Workshop on The Personal Health Knowledge Graph, Knowledge Graph Conference, 2020

- "A Two-Step Framework for Parkinson's Disease Classification: using Multiple One-Way ANOVA on Speech Features and Decision Trees." Gaurang Prasad, Thilanka Munasinghe and Oshani Seneviratne. AAAI 2020 AI for Social Good Fall Symposium

- "Enabling Trust in Clinical Decision Support Recommendations through Semantics"; Oshani Seneviratne, Amar Das, Ching-Hua Chen, Jim McCusker, Jim Hendler, Deborah McGuinness; Semantic Web solutions for large-scale biomedical data analytics (SeWeBMeDA-2019) Workshop at ISWC 2019

- "Ontology Aided Smart Contract Execution for Unexpected Situations"; Farhad Mohsin, Xingjian Zhao, Zhuo Hong, Geeth De Mel, Lirong Xia and Oshani Seneviratne; Blockchain enabled Semantic Web Workshop at ISWC 2019

- "G-PROV: Provenance Management for Clinical Practice Guidelines"; Nkechinyere Agu, Neha Keshan, Shruthi Chari, Oshani Seneveratne, Sabbir M. Rashid, Amar K. Das, James P. McCusker and Deborah L. McGuinness; Semantic Web solutions for large-scale biomedical data analytics (SeWeBMeDA-2019) Workshop at ISWC 2019

- "Automating Population Health Studies Through Semantics and Statistics." Alexander New, Miao Qi, Shruthi Chari, Sabbir M. Rashid, Oshani Seneviratne, Jamie P. McCusker, John S. Erickson, Deborah L. McGuinness, Kristin P. Bennett. Semantic Statistics Workshp at ISWC 2019.

- "Knowledge Representation and Reasoning for Breast Cancer"; Oshani Seneviratne, Sabbir Rashid, Shruthi Chari, Jim McCusker, Kristin Bennett, Jim Hendler and Deborah McGuinness; Knowledge Representation and Semantics Working Group Pre-Symposium at American Medical Informatics Association (AMIA) annual conference 2018

- "Semantic Modeling of Cohort Descriptions in Research Studies"; Shruthi Chari, Rukmal Weerawarana, Oshani Seneviratne, James P. McCusker, Deborah L. McGuinness and Amar Das; Knowledge Representation and Semantics Working Group Pre-Symposium at American Medical Informatics Association (AMIA) annual conference 2018

- "G-PROV: A Provenance Encoding Structure for Guideline Evidence"; Shirly Stephen, Oshani Seneviratne, Deborah L. McGuinness, Shruthi Chari and Amar Das; Knowledge Representation and Semantics Working Group Pre-Symposium at American Medical Informatics Association (AMIA) annual conference 2018

- "Improving Identified Comorbidities using Semantically Annotated Disease Graph"; Nkechinyere Agu, Oshani Seneviratne and Deborah McGuinness; Knowledge Representation and Semantics Working Group Pre-Symposium at American Medical Informatics Association (AMIA) annual conference 2018

- "Augmenting Provenance Records with Trust in Enterprise Applications", Oshani Seneviratne and Ken Beckett, Prov: Three Years Later at Provenance Week 2016, Washington DC

- "Ontology Enabled Breast Cancer Characterization", Oshani Seneviratne, Sabbir M. Rashid, Shruthi Chari, James P. McCusker, Kristin P. Bennett, James A. Hendler, and Deborah L. McGuinness; International Semantic Web Conference (Posters & Demos) 2018

- "Developing Mobile Linked Data Applications". Oshani Seneviratne, Evan W. Patton, Daniela Miao, Fuming Shih, Weihua Li, Lalana Kagal, Carlos Castillo; International Semantic Web Conference (Posters & Demos) 2014: 169-172

- "Democratizing mobile app development for disaster management"; Fuming Shih, Oshani Seneviratne, Ilaria Liccardi, Evan Patton, Carlos Castillo and Patrick Meier; Workshop on AI Problems and Approaches for Intelligent Environments and Workshop on Semantic Cities,

IJACAI 2013

- "Policy Aware Social Miner"; Sharon Paradesi, Oshani Seneviratne and Lalana Kagal; Workshop on Semantic Computing and Security 2012
- "HTTPA: Accountable HTTP"; Oshani Seneviratne and Lalana Kagal; IAB/W3C Internet Privacy Workshop, 2010
- "Decentralization: The Future of Online Social Networking"; (author names in alphabetical order) Ching-man AuYeung, Tim Berners-Lee, Ilaria Liccardi, Kanghao Lu, Oshani Seneviratne; W3C Mobile Social Networking Workshop
- "Public policy: Mashing-up Technology and Law"; Puneet Kishor, and Oshani Seneviratne, Mashing Up Culture Workshop 2009 – Uppsala University, Sweden
- "The Point of View Axis: Varying the Levels of Explanation Within a Generic RDF Data Browsing Environment"; Oshani Seneviratne, Tim Berners-Lee; CSAIL Student Workshop 2008

Selected Peer Reviewed Poster Papers:

- "Enhancing Clinical Relevance of Health Behavior Insights via Semantics." Jonathan Harris, Deborah L. McGuinness, Marco Monti, Oshani Seneviratne, Mohammed J. Zaki, Ching-Hua Chen. American Medical Informatics Association (AMIA) Annual Conference 2021.
- "Leveraging Clinical Context for User-Centered Explainability: A Diabetes Use Case." Shruthi Chari, Prithwish Chakraborty, Mohamed Ghalwash, Oshani Seneviratne, Elif K. Eyigöz, Daniel M. Gruen, Fernando Suarez Saiz, Ching-Hua Chen, Pablo Meyer Rojas, Deborah L. McGuinness. American Medical Informatics Association (AMIA) Annual Conference 2021.
- "Rapid Prototyping of Mobile Apps for Clinical Research using Semantic Web Technologies." Oshani Seneviratne, William Van Woensel, Giuseppe Loseto, Floriano Scioscia, Evan W. Patton, Lalana Kagal. ISWC (Posters/Demos/Industry) 2021
- "Mobile App Development for the Semantic Web of Things with Punya." Giuseppe Loseto, Evan W. Patton, Oshani Seneviratne, William Van Woensel, Floriano Scioscia, Lalana Kagal. ISWC (Posters/Demos/Industry) 2021
- "Healthy Food Recommendation and Explanation Generation using a Semantically-Enabled Framework." Sola Shirai, Oshani Seneviratne, Ching-Hua Chen, Daniel Gruen, Deborah L. McGuinness. ISWC (Posters/Demos/Industry) 2021
- "Explanation Ontology in Action: A Clinical Use-Case"; Shruthi Chari, Oshani Seneviratne, Daniel M. Gruen, Morgan A. Foreman, Amar K. Das, Deborah L. McGuinness; Posters and Demo Track,19th International Semantic Web Conference 2020
- "Applying Learning and Semantics for Personalized Food Recommendations"; Nidhi Rastogi, Oshani Seneviratne, Yu Chen, Jon Harris, Diya Li, Ananya Subburathinam, Ruisi Jian, Megan Goulet, Yuheng Zhou, Osama Minhas, Jared Okun, Aaron Hill, Ching-Hua Chen, Dan Gruen; Posters and Demo Track, 19th International Semantic Web Conference 2020
- "Semantics-Driven Ingredient Substitution in the FoodKG"; Sola Shirai, Oshani Seneviratne, Minor Gordon, Ching-Hua Chen, Deborah McGuinness; Posters and Demo Track, 19th International Semantic Web Conference 2020
- "IoT Application Development Using MIT App Inventor to Collect and Analyze Sensor Data"; Thilanka Munasinghe, Evan W. Patton, Oshani Seneviratne; IEEE BigData 2019.
- "Ontology-enabled Analysis of Study Populations"; Shruthi Chari, Miao Qi, Nkcheniyere N. Agu, Oshani Seneviratne, James P. McCusker, Kristin P. Bennett, Amar K. Das and Deborah

L. McGuinness; International Semantic Web Conference 2019 (Posters and Demo Track)

- "FoodKG Enabled Q&A Application"; Steven Haussmann, Yu Chen, Oshani Seneviratne, Nidhi Rastogi, James Codella, Ching-Hua Chen, Deborah McGuinness and Mohammed Zaki; International Semantic Web Conference 2019 (Posters and Demo Track)
- "Modeling and Analyzing Cohort Descriptions in Research Studies"; Shruthi Chari, Miao Qi, Oshani Seneviratne, James P. McCusker, Kristin P. Bennett, Deborah L. McGuinnesss and Amar Das; Artificial Intelligence for Data Discovery and Reuse (AIDR 2019)
- "Improving Transparency of Clinical Guidelines Through Semantic Knowledge Representation and Reasoning"; Oshani Seneviratne and Deborah McGuinness; U.S. Semantic Technologies Symposium Series (US2TS) 2019
- "Ontology-enabled Breast Cancer Characterization"; Oshani Seneviratne and Deborah McGuinness; U.S. Semantic Technologies Symposium Series (US2TS) 2019
- "Making study populations visible through knowledge graphs"; Shruthi Chari, Oshani Seneviratne and Deborah McGuinness; U.S. Semantic Technologies Symposium Series (US2TS) 2019
- "Making Study Populations Visible through Knowledge Graphs"; Shruthi Chari, Miao Qi, Nkechinyere N. Agu, Oshani Seneviratne, James P. McCusker, Kristin P. Bennett, Amar K. Das and Deborah L. McGuinness; New England Computational Health Summit (NECHS) 2019
- "Abductive Reasoning over Health Data and Clinical Guidelines"; Sabbir Rashid, Amar Das, James McCusker, Oshani Seneviratne and Deborah McGuinness; New England Computational Health Summit (NECHS) 2019

White Papers / Technical Reports:
- "Towards Smarter, Efficient and Trusted Insurance Marketplaces through Computable Contracts"; Oshani Seneviratne, Aparna Gupta, and Muhammed Ahmed; Available at https://www.capgemini.com/resources/towards-smarter-efficient-and-trusted-insurance-marketplaces-through-computable-contracts
- "WebBox: Supporting Decentralized and Privacy-respecting Micro-sharing with Existing Web Standards"; Daniel Alexander Smith, Max Van Kleek, Oshani Seneviratne, m.c. schraefel, Alexandre Bertails, Tim Berners-Lee, Wendy Hall, Nigel Shadbolt; University of Southamption Technical Report 2012
- "On Integration Issues of Site-specific APIs into the Web of Data"; (author names in alphabetical order) Tim Berners-Lee, Richard Cyganiak, Michael Hausenblas, Joe Presbrey, Oshani Seneviratne, Oana-Elena Ureche; National University of Ireland - DERI Technical Report 2009

Patent:
- Seneviratne, O., Anandan, S., Beckett, K., B'Far, R., "Visualization of Provenance Data", U.S Patent, Jan 15, 2016; https://patents.justia.com/patent/10235781

GRANTS

- RPI-IBM Artificial Intelligence Research Collaboration grant for $100,000 to conduct research on the Smart Contracts Augmented with Learning and Semantics (SCALES) project

- NSF grant for $20,000 towards International Semantic Web Conference 2019 student travel support

AWARDS

- **Best Paper Award** at the 4th International Workshop on Data Engineering Meets Intelligent Cooking Recipes (DÉCOR) 2021 for "Semantic Modeling for Food Recommendation Explanations"; Ishita Padhiar, Oshani Seneviratne, Shruthi Chari, Daniel M. Gruen, and Deborah L. McGuinness
- **Best Resource Paper Award** at the 19th International Semantic Web Conference 2020 for Explanation Ontology: A Model of Explanations for User-Centered AI; Shruthi Chari, Oshani Seneviratne, Daniel M. Gruen , Morgan A. Foreman , Amar K. Das, Deborah L. McGuinness Best Use of Data Award, NASA Space Apps Challenge 2016
- **Best Communications App**, May 2014, Public Safety and Emergency Preparedness, AT&T Mobile App Hackathon, Washington DC
- **Best Computing and Most Technically Interesting Project Award**, Big Travel Data Hackathon 2013, Boston MA
- **Key Scientific Challenge Winner** 2011, Yahoo Research
- **World Wide Web Travel Awards** 2009 and 2011 by Google Inc.
- **Grace Hopper Scholarship** 2005 (as an undergraduate at University of Moratuwa, Sri Lanka) and 2011 (as a PhD student at MIT) from the Anita Borg Institute

PRESS

- "Rensselaer Polytechnic Institute to Co-chair Symposium on AI for Social Good", https://news.rpi.edu/approach/2019/10/30, October 2019

- "Rensselaer Researchers Use Blockchain to Boost Medical Image Sharing", https://hitinfrastructure.com/news/rensselaer-researchers-use-blockchain-to-boost-medical-image-sharing, June 2019
- "Delving Deep Into Artificial Intelligence," https://magazine.rpi.edu/feature/delving-deep-into-artificial-intelligence
- "Who's Using Your Data?" MIT News June 2014, and MIT Technology Review, August 2014
- "How 'HTTP with Accountability' Will Let You Track Who Uses Your Data", Motherboard, Vice.com, June 2014
- "Accountable HTTP Seeks to increase data privacy through transparency", ITWorld, June 2014

PROFESSIONAL SERVICE

Academic
- **Conference Organization:**
    - Program Chair, International ACM Conference on Web Science Conference 2022
    - Doctoral Consortium Chair, International Semantic Web Conference 2022

- o Poster and Demo Chair, International Semantic Web Conference 2021
- o Proceedings Chair, International Semantic Web Conference 2020
- o Workshop and Tutorials Chair, International ACM Conference on Web Science 2020 and 2021
- o Developers Day Chair at the World Wide Web Conference 2016
- o Publicity Chair, International Semantic Web Conference 2012
- **Symposium Organization:**
  - o AAAI Fall Symposium 2019 and 2020 on AI for Social Good
  - o AAAI Spring 2015 Symposium on Structured Data for Humanitarian Technologies
- **Workshop Organization:**
  - o Personal Health Knowledge Graph Workshop at the Knowledge Graph Conference at the Knowledge Graph Conference 2020 and 2021
  - o International Multidisciplinary Workshop on Advances in Artificial Intelligence for Blockchain at IEEE Blockchain (AIChain) 2019, 2020, and 2021
  - o International Workshop on Knowledge Graphs: Heterogeneous Graph Deep Learning and Applications at ACM KDD Conference 2021
- **Grant proposal Reviewer:**
  - o Research Foundation – Flanders 2018
- **Journal Special Issue:**
  - o Special Issue on Personal Health Knowledge Graphs at the Data Intelligence Journal 2022
  - o Special Issue on Semantic Technologies for Data and Algorithmic Governance at the Semantic Web Journal 2020
- **Journal Reviewer:**
  - o Journal of Social Computing (Tsinghua University Press), 2021 –
  - o Semantic Web Journal, 2018 –
  - o Journal of Web Semantics, 2017 –
  - o IEEE Computer Society Journal
  - o IEEE Transactions in Engineering Management Journal 2019
  - o Computingreviews.com, 2012 – 2014
  - o IEEE Information Systems, 2009
- **Conference Program Committee Member:**
  - o IEEE/ACM Web Intelligence 2021
  - o International Conference on Deep Learning, Big Data and Blockchain 2021
  - o IEEE Decentralized Applications Conference 2020 and 2021
  - o IEEE Blockchain conference 2020
  - o Association for Medical Informatics Association (AMIA) 2020
  - o World Wide Web Conference 2013, 2014, 2015, 2016, 2017
  - o International Semantic Web Conference 2012, 2013, 2014, 2017
  - o Web Science Conference 2019
  - o ACM International Conference on Information and Knowledge Management 2018
  - o Developer's Track, World Wide Web Conference 2018
  - o PhD Symposium, World Wide Web Conference 2018
  - o European Conference on Information Systems 2017
  - o MERS Con 2015, 2019, 2020
- **Workshop Program Committee Member:**
  - o Semantic Machine Learning Workshop at the IEEE Semantic Computing

Conference 2019
- o International Workshop on Knowledge Graphs on Travel and Tourism at International Conference on Business Information Systems 2019
- o Workshop on Semantic Machine Learning, IJCAI 2017

Non-Academic/Community
- Student Coordinator Chair, International Semantic Web Conference, 2019
- Secretary, vaasocal.org, 2015 – 2018
- Advisory Committee Member, University of California Irvine Continuing Education, 2016 – 2017
- President, Sri Lankan Student Association at MIT, 2011 – 2014
- Student Representative, MIT Online Education Steering Group, 2010 – 2011
- Event Commissioner, CSAIL Olympics, 2009 – 2012
- President, Graduate Women in Course 6, 2010 – 2011
- Board Member, GWAMIT (Graduate Women at MIT), 2010 – 2011
- Speaker, MIT Women's Initiative, 2010 – 2011
- Treasurer, CSAIL Student Committee, 2009 – 2010
- Program Chair and Webmaster, CSAIL Student Workshop, 2009 – 2010
- Invited Expert, Social Web Incubator Group, W3C, 2009 – 2010
- Committer for Apache Woden, Axis2 and Forest projects, 2006 – 2008

REFERENCES

Available upon request