Justin F. Brunelle, Ph.D.

CONTACT INFORMATION	**Chief Scientist** Software Engineering Innovation Center, MITRE Labs **The MITRE Corporation** http://bit.ly/2wCpN9k

E-mail (MITRE): jbrunelle@mitre.org

E-mail (Personal): jbrunelle008@gmail.com

WEB PRESENCE

- http://justinfbrunelle.com/
- https://www.linkedin.com/in/justinfbrunelle/
- https://twitter.com/justinfbrunelle
- https://scholar.google.com/citations?user=O_Fdci8AAAAJ
- https://www.researchgate.net/profile/Justin_Brunelle
- http://bit.ly/2lzCCtB

SECURITY CLEARANCE

Current: TS/SCI

CITIZENSHIP

USA

RESEARCH INTERESTS

Technology-driven innovation for the US Government
AI-driven software development and delivery
Web Science: web archiving, web crawling, information retrieval, Web3

EDUCATION

Old Dominion University, Norfolk, VA USA

Ph.D., Computer Science, 2016

- Dissertation Topic: *Scripts in a Frame: A Two-Tiered Crawling Approach for Archiving Deferred Representations*
- Dissertation Proposal: *May, 2016*
- Candidacy: *May, 2014*
- Adviser: Dr. Michael L. Nelson
- Area of Study: Web Science and Digital Preservation

M.S., Computer Science, May, 2010

- *Cum Laude*
- Project: *MiBoard: Multiplayer Interactive Board Game*
- Adviser: Dr. Irwin B. Levinstein
- Area of Study: Intelligent Tutoring Systems

B.S., Computer Science, 2008

- *Cum Laude*
- Minor in Computer Engineering
- Minor in Modeling and Simulation

SUMMARY OF PROFESSIONAL APPOINTMENTS

2022-Present: **Chief Scientist**, Software Engineering Innovation Center, The MITRE Corporation

2017-2022: **Principal Researcher**, Agile Engineering and Innovation Department, The MITRE Corporation

2014-2017: **Lead Researcher**, Agile Engineering and Innovation Department, The MITRE Corporation

2012-2014: **Senior Software Application Developer**, Agile Engineering and Innovation Department, The MITRE Corporation

2010-2012: **Software Application Developer**, Agile Engineering and Innovation Department, The MITRE Corporation

2016-2019: **Adjunct Assistant Professor**, Department of Computer Science, Old Dominion University

2010-2016: **Research Assistant**, Web Sciences and Digital Libraries Research Lab, Department of Computer Science, Old Dominion University

2008-2009: **Adjunct Instructor**, Tidewater Community College

2008-2010: **Lead Developer**, iSTART Project, Department of Computer Science, Old Dominion University

2004-2008: **Software Developer**, iSTART Project, Department of Computer Science, Old Dominion University

2003-2004: **Software Tester**, iSTART Project, Department of Computer Science, Old Dominion University

Expanded Bio   Dr. Justin F. Brunelle, Chief Scientist of MITRE's Software Engineering Innovation Center, is an accomplished researcher, Principal Investigator, and technical leader with experience leading both government sponsor-facing and internal research and development projects. His 15+ years of experience at The MITRE Corporation, a not-for-profit company that operates multiple Federally Funded Research and Development Centers, have allowed him to lead research that helps MITRE's government sponsors solve their toughest challenges. His technical expertise – particularly in applied government technology innovation and AI-driven software engineering – and ability to create, lead, and grow technical research teams has delivered significant benefits to the government.

His career has produced several highlights summarized below:

1. Current principal investigator of an IR&D project with a team of over 20 researchers and a $5M+ 2-year budget

2. 15 total funded IR&D projects totaling $8M+ that produced 20+ intellectual property contributions

3. Created program on track to nearly double the S&T output of MITRE Labs

4. 100+ non-peer reviewed technical reports or technical products

5. 25+ peer reviewed publications and edited book chapters with 4 best paper and 1 best poster award

6. Current, active TS clearance and continued work with US Federal Government (including DoD, intelligence, and civilian government organizations) and current collaborations with many research organizations and state and local government organizations (e.g., Miami-Dade county emergency response)

7. 30+ awards, including Old Dominion University Alumni Association's 2023 class of 40 Under 40

As the Chief Scientist, Justin works in partnership with Innovation Center leaders to create and execute the technical strategy for the Innovation Center's over 500 employees. The technical strategy sets the goals, measures, and plan for the division's activities including: technical staff opportunities, growth, and advancement; discretionary research and capability development funding; and internal and external research activities. Justin is most effective when creating the vision for research and development efforts, constructing and leading technical teams toward achieving that vision, and delivering value to the end user. Along with creating and executing the technical strategy, his experience includes motivating innovation, mentoring staff, curates MITRE's internal and external research presence and partnerships, and guiding highly technical teams, projects, and organizations to achieve their missions.

Justin has also created multiple research programs, including for early career staff in the Software Engineering Tech Center, to help build proposal and research experience among employees as well as increase both mentorship and external research contributions. Potential PIs submit competitive proposals that are peer reviewed with winning proposals receiving research funding to pursue projects around government-focused technology innovation. This program is on track to nearly double the scholarly contributions from MITRE Labs government-funded research. Justin also led the development of the Innovation Center's Research and Innovation Strategy that is focused on aligning, motivating, and rewarding daily staff behaviors that help MITRE deliver value to its sponsors.

Aligned with his focus on external partnerships, Justin managed MITRE's partnership with the Advanced Technology Academic Research Center (ATARC) and lead the planning and execution of the Federal Technology Summit Series (2012-2020); his work included leading a team of over 80 staff annually to make the Summits a success. Justin's team also wrote and published whitepapers recapping the events. Aligned with a focus on external innovation engagement, Justin has lead multiple government, startup, and commercial technical evaluations to include external tech scouting, innovation engagements, and proposal reviews. He routinely participates and leads efforts in the SBIR/STTR and competitive research for funding evaluations and technical and research review. Justin participates on many conference and journal committees, speaks at conferences and other events, and serves on the Old Dominion University Department of Computer Science Advisory Board (chairing the Curriculum and Research Committee).

Justin has a track record of success in both internal and external research programs, leveraging connections both internal and external to MITRE to benefit MITRE's sponsors, and mentoring staff to improve MITRE's talent pipeline. Due to his technical contributions, Justin's work is highly valued by government sponsors. His primary focus is guiding government leaders toward adopting emerging technologies, but focusing on the application and research of web science and web crawling. He typically guides and synchronizes engagements with senior government officials. These efforts range from research and experimentation to prototyping and demonstrations.

PEER-REVIEWED
PUBLICATIONS

1. Kyle Dempsey, Justin Brunelle, G. Tanner Jackson, Chutima Boonthum, Irwin Levinstein, Danielle McNamara. "MiBoard: Multiplayer Interactive Board Game", 2009, *Workshop for Educational Games at the 14th International Conference on Artificial Intelligence in Education (AIED).*

2. Justin F. Brunelle, Irwin B. Levinstein, Chutima Boonthum. "MiBoard: Metacognitive Training Through Gaming in iSTART", 2009, *VMASC Capstone Conference, April 2009.*

   - Best Paper in Track

3. Justin F. Brunelle, Kyle B Dempsey, G. Tanner Jackson, Chutima Boonthum, Irwin B. Levinstein, Danielle S. McNamara. "MiBoard: Metacognitive Training Through Gaming", *2009 SCiP Conference, 2009*

4. Justin F. Brunelle, G. Tanner Jackson, Kyle Dempsey, Chutima Boonthum, Irwin B. Levinstein, Danielle S. McNamara. "Analysis of MiBoard as an iSTART Practice Tool", 2010, *FLAIRS-24, 2010*

5. Kyle Dempsey, G. Tanner Jackson, Justin Brunelle, Michael Rowe, Danielle McNamara. "MiBoard: Assessing Collaborative Learning Through Game-Based Practice", 2010, *FLAIRS-23, 2010*

6. Justin F. Brunelle "Filling in the Blanks: Capturing the Dynamic Web", 2012, *Doctoral Consortium - JCDL 2012*

7. Justin F. Brunelle, Michael L. Nelson, "An evaluation of caching policies for Memento TimeMaps", *Proceedings of JCDL 2013*, pp. 267-276. (Also available as Technical Report arXiv:1307.5685)

8. Justin F. Brunelle, Michael L. Nelson, Lyudmila Balakireva, Robert Sanderson, Herbert Van de Sompel, "Evaluating the SiteStory Transactional Web Archive With the ApacheBench Tool", *Proceedings of TPDL 2013*

9. Mat Kelly, Justin F. Brunelle, Michele C. Weigle, Michael L. Nelson, "On the Change in Archivability of Websites Over Time", *Proceedings of TPDL 2013.* (Also available as Technical Report arXiv:1307.8067)

10. Mat Kelly, Justin F. Brunelle, Michele C. Weigle, and Michael L. Nelson, "A Method for Identifying Personalized Representations in the Archives", *DLib Magazine, 19(11/12), 2013*

11. Justin F. Brunelle, Mat Kelly, Hany SalahEldeen, Michele C. Weigle, and Michael L. Nelson "Not All Mementos Are Created Equal: Measuring The Impact Of Missing Resources", 2014, *Proceedings of JCDL 2014*

    - Best Student Paper

12. Justin F. Brunelle, Mat Kelly, Michele C. Weigle, Michael L. Nelson, "The impact of JavaScript on archivability", *International Journal on Digital Libraries*, 2015

13. Wesley Jordan, Mat Kelly, Justin F. Brunelle, Laura Vobrak, Michele C. Weigle, and Michael L. Nelson, "Mobile Mink: Merging Mobile and Desktop Archived Webs", *Proceedings of JCDL 2015*

    - Best Poster

14. Justin F. Brunelle, Mat Kelly, Hany SalahEldeen Michele C. Weigle, and Michael L. Nelson, "Not all mementos are created equal: Measuring the impact of missing resources", *International Journal on Digital Libraries*, 16(3-4), pp. 283–301, 2015

15. Justin F. Brunelle, Michele C. Weigle, and Michael L. Nelson, "Archiving Deferred Representations Using a Two-Tiered Crawling Approach", *Proceedings of iPRES 2015*, 2015. (Also available as Technical Report arXiv:1508.02315)

16. Justin F. Brunelle, Krista Ferrante, Eliot Wilczek, Michele C. Weigle, and Michael L. Nelson, "Leveraging Heritrix and the Wayback Machine on a corporate intranet: A case study on improving corporate archives", *DLib Magazine* 22(1/2), 2016

17. Justin F. Brunelle, Michele C. Weigle, and Michael L. Nelson, "Archival Crawlers and JavaScript: Discover More Stuff but Crawl More Slowly", *Proceedings of JCDL2017*, 2017

18. Trevor Bostic, Jeff Stanley, John Higgins, Daniel Chudnov, Rachael L. Bradley Montgomery, and Justin F. Brunelle, "Exploring the Intersections of Web Science and Accessibility", *Proceedings of the 2nd International Conference on Human Systems Engineering and Design (IHSED2019): Future Trends and Applications*, pgs 483-488, 2019. (Also available as MITRE Technical Report Case Number 19-2337 and arXiv:1908.02804.)

19. Trevor Bostic, Jeff Stanley, John Higgins, Daniel Chudnov, and Justin F. Brunelle, *Demodocus: Automated Accessibility Testing of Dynamic Web Content*, CSUN Assistive Technology Conference 2020 (peer reviewed conference presentation without proceedings: `https://www.csun.edu/cod/conference/sessions/index.php/public/presentations/view/4194`).

20. Justin F. Brunelle, Daniel Frisk, Benjamin Mayer, Paula Randall, Awais Sheikh "Measuring the Impact of Innovation Activities in Government", *Defense Acquisition Research Journal* (`https://www.dau.edu/library/arj/p/ARJ-94.`), October 2020, issue 94, pgs 398–435. (Also available as MITRE Technical Report Case Number 19-3285 and at `https://bitly.com/measureInnovation`.)

    - Nominated for and won 2nd place in the 2020 Edward Hirsch Acquisition and Writing Competition Award

21. Trevor Bostic, Daniel Chudnov, Jeff Stanley, Brittany Tracy, John Higgins, Justin F. Brunelle "Demodocus: Where is Accessibility Hiding?", *Proceedings of the 2020 ICT Accessibility Testing Symposium*, October 2020, pgs 81-90, 2020.

22. Justin F. Brunelle, Ryan Farley, Grant Atkins, Trevor Bostic, Marites Hendrix, Zak Zebrowski "Archiving the Dark Web", *WARCNet Closing Conference*, 2022.

23. Grant Atkins, Aaron Buehne, Abby Mabe, Zak Zebrowski, Justin F. Brunelle "Russia-Ukraine News on the Dark Web", *WADL*, 2022.

24. Erika Darling, Patrick O'Leary, Mike Sarasti, Andrew Nohle, Sanith Wijesinghe, Jaylen Thomas, Justin F. Brunelle. "Verifiable Credentials in US Government Disaster Relief", *2024 IEEE World Forum on Public Safety Technology (WF-PST)*, 2024

25. Chris Glasz, Dr. Justin F. Brunelle, Dr. Scott Rosen, Dr. Nitin Naik, Dr. Samruddhi Thaker, Jacob Zimmer, Dr. Siggy Scott, Emily Escamilla, Amit Madan, Arun Sridharan, Doug Wendt, Michael Doyle, Colin Diggs, Jasper Phillips, William Macke, Paul Kirk, Michael Bartholf, Naveed Nekoo, Zach Robin, Paul Ursino. "Legacy Code Understanding in LLM Documentation Generation: Prospects and Limitations", *Accepted for Publication: LLM4Code @ International Conference on Software Maintenance and Evolution*, 2025

26. Chris Glasz, Dr. Justin F. Brunelle, Dr. Scott Rosen, Dr. Nitin Naik, Dr. Samruddhi Thaker, Jacob Zimmer, Emily Escamilla, Amit Madan, Arun Sridharan, Doug Wendt, Michael Doyle, Colin Diggs, William Macke, Rock Sabetto, Faith Morgan, Thomas Schill. "Impact of Comments on LLM Comprehension of Legacy Code", *In Submission; Case Number 25-0821*, 2025

27. Chris Glasz, Dr. Justin F. Brunelle, Dr. Scott Rosen, Dr. Nitin Naik, Dr. Samruddhi Thaker, Jacob Zimmer, Emily Escamilla, Amit Madan, Arun Sridharan, Doug Wendt, Michael Doyle, Colin Diggs, William Macke, Rock Sabetto, Faith Morgan, Thomas Schill. "Can LLMs Replace Humans for Code Partitioning?", *In Submission; Case Number 25-XXXX*, 2025

FUNDED
RESEARCH

1. Justin F. Brunelle, George Despres. Save the MII! Digital Preservation for a Secure Intranet *CI& T Innovation Grant.* 2011.

2. Justin F. Brunelle. Security and Permissions in Digital Preservation *E540 I3 Proposal.* 2012.

3. Justin F. Brunelle. Federal Summit Series *Corporate Overhead.* 2013-2019.

4. Krista Ferrante, Justin F. Brunelle, Heritrix, the Wayback Machine, and Memento for improving corporate memory, *CI&T Innovation Grant.* 2015.

5. Krista Ferrante, Eliot Wilczek, Justin F. Brunelle, Establishing automated crawlers for a corporate intranet, *CI&T Internal Funding.* 2016.

6. Justin F. Brunelle, Dan Frisk, Benjamin Mayer, Paula Randall, Measuring Innovation Cell Impact, *MITRE Innovation Program.* 2018-2020.

7. Trevor Bostic, Jeff Stanley, Justin F. Brunelle, Demodocus, *MITRE Innovation Program.* 2018-2020.

8. Justin F. Brunelle, Ozgur Eris, Andreas Tolk, AR/VR Position Paper, *MITRE Innovation Program.* 2019.

9. Justin F. Brunelle and Ryan Farley, Venom Project, *MITRE Innovation Program.* 2020-2022.

10. Grant Atkins, Justin F. Brunelle, Surface vs Dark, *MITRE Innovation Program.* 2020-2022.

11. Justin F. Brunelle, Early Career Tech Watchers, *L530 Overhead.* 2019-2022.

12. Justin F. Brunelle, IRIS: Verifiable Credentials for Disaster Relief, *MITRE IR&D Program.* 2023.

13. Justin F. Brunelle, Research Enablement and Augmentation Program (REAP), *MITRE Overhead.* 2019-2022.

14. Justin F. Brunelle, Software Modernization at Scale, *MITRE IR&D Program.* 2023-present.

15. Over 15 unsuccessful MITRE IR&D proposals that are not listed due to sensitivities.

OPEN SOURCE PROJECTS

JANUS (https://github.com/janus-llm, case number 24-3071) - Janus LLM is focused on using Large Language Models (LLMs) to aid in legacy IT modernization through the use of techniques in reflection, agentic prompting, and retrieval augmented generation (RAG).

Demodocus Framework (https://mitre.github.io/demodocus) - Automated Web-Accessibility for Web Applications.

Warrick and Brass (http://code.google.com/p/warrick/) - Recovering lost websites from the Web Infrastructure with the Memento Framework. (No longer maintained)

Mobile Mink (https://github.com/Thing342/MobileMemento) - Merging the mobile and desktop Webs. (No longer maintained)

TECHNICAL REPORTS & NON-PEER REVIEWED PUBLICATIONS

1. Justin Brunelle, Bob Chadwick, Peter Kertzner, Scott Lee, Fred Stein, Jim Watters, Restricted Distribution, MITRE Technical Report *MTR100260, September 13, 2011*

2. Justin F. Brunelle, Jory T. Morrison, George Despres , "Installation and Experimentation of a Transactional Archive on a Corporate Intranet" *MTR114406, October 31, 2011*

3. Justin F. Brunelle, Michael L. Nelson, "Evaluating the SiteStory Transactional Web Archive with the ApacheBench Tool" *arXiv:1209.1811, September 09, 2012*

4. Geoffrey Raines, Carlos Ramos, Justin Brunelle, Thomas Fugate, "Cloud Computing Design Patterns", Technical Report, *MTR130042*, 2013

5. Justin F. Brunelle, Bruce Gorski, Romanath Roy, Juan Ruiz, Restricted Distribution, Technical Report, 2014

6. Jory Morrison, Jackie Morin, Carlton Northern, Justin Brunelle, Restricted Distribution, Technical Report, *MTR140384*, 2014

7. Justin Brunelle, Robert Daniels, Kimberly Halladay, Laila Moretto, Restricted Distribution, Technical Report, 2014

8. Justin F. Brunelle, Karen Caraway, Don Faatz, Nancy Ross, Tom Suder, "July 2014 Federal Cloud Computing Summit Summary", Technical Report, *Case Number 14-3272*, 2014

9. Justin F. Brunelle, Karen Caraway, Nicole Gong, Michael Kristan, Nancy Ross, Tom Suder, "January 2015 Federal Cloud Computing Summit Summary", Technical Report, *Case Number 15-1080*, 2015

10. Justin F. Brunelle, Karen Caraway, Nicole Gong, Julia Packer, Jim Vann, Tim Harvey, Tom Suder, "July 2015 Federal Cloud Computing Summit Report", Technical Report, *Case Number 15-3250*, 2015

11. Justin F. Brunelle, Jory Morrison, Kun Park, David Vincent, Lowell Asher, Scott Lee, Restricted Distribution, Technical Report, *MTR150359*, 2015

12. Justin F. Brunelle, Demetrius Davis, Duy Huynh, Mano Malayanur, Bob Natale, Howard Small, Tim Harvey, Tom Suder, "January 2016 Federal Cloud Computing Summit Summary", Technical Report, *Case Number 16-0921*, 2016

13. Justin F. Brunelle, Demetrius Davis, Nicole Gong, Duy Huynh, Michael Kristan, Mano Malayanur, Tim Harvey, Tom Suder, "July 2016 Federal Cloud Computing Summit Summary", Technical Report, *Case Number 16-3496*, 2016

14. Justin F. Brunelle, Nic Van Balen, Kun Park, Lowell Asher, Scott Lee, Restricted Distribution, Technical Report, *MTR160457*, 2016

15. Justin F. Brunelle, Nic Van Balen, Kun Park, Lowell Asher, Scott Lee, Restricted Distribution, Technical Report, *MTR160458*, 2016

16. Justin F. Brunelle, Michele C. Weigle, and Michael L. Nelson, "Adapting the Hypercube Model to Archive Deferred Representations at Web-Scale", Technical Report, arXiv:1601.05142, 2016

17. Justin F. Brunelle, Sunny Anand, Rick Cagle, Michael Kristan, Mari Spina, Katy Warren, Tim Harvey, Tom Suder, "February 2017 Federal Cloud Computing Summit Summary", Technical Report, *Case Number 17-1286*, 2017

18. Colin Courtney, Aaron LaFrenz, Nicolas Van Balen, Nickyra Jackson, Justin F. Brunelle, Lowell Asher, Scott Lee, Restricted Distribution, Technical Report, *MTR170170*, 2017

19. Nicolas Van Balen, Justin F. Brunelle, Lowell Asher, Scott Lee, Restricted Distribution, Technical Report, *MTR170171*, 2017

20. George McPherson, Justin F. Brunelle, Lowell Asher, Scott Lee, Restricted Distribution, Technical Report, *MTR170169*, 2017

21. Justin F. Brunelle, Joe Portner, Nancy Ross, Andrew King, "Web Architecture for the Internet of Things", *Case Number 17-1594*, 2017

22. Patrick Benito, Marie Collins, CJ Rieser, Darshan Kadam, Mike Schoenfeld, Jeff Stein, Greg Kern, Carlton Northern, Mike Peck, Justin F. Brunelle, Tim Harvey, Tom Suder, "March 2017 Federal Mobile Computing Summit Report", Technical Report, *Case Number JFB-001*, 2017

23. Justin F. Brunelle, Sunny Anand, Greg Barmine, Mari Spina, Katy Warren, Audrey Winston, Mannan Javid, Aaron Kemmer, Christine Kim, Said Masoud, Tim Harvey, Tom Suder, "August 2017 Federal Cloud & Data Center Summit Summary", Technical Report, *Case Number 17-3231-2*, 2017

24. Michelle Casagni, Melissa Heeren, Rick Cagle, Diane Hanf, Michael Kristan, Justin F. Brunelle, Tom Suder, and Tim Harvey. "2017 Federal DevOps Summit Report", Technical Report *Case Number 17-3231-3*, 2017

25. Justin F. Brunelle, Eileen Durkin, Mark Wahnish, Robert Cherinka, and Pat Benito. Restricted Distribution, MITRE Product *MP170588*, 2017

26. Justin F. Brunelle. Restricted Distribution, MITRE Product *MP180012*, 2018

27. Justin F. Brunelle. Restricted Distribution, MITRE Product *MP180005*, 2018

28. Christine Harvey, Justin F. Brunelle, Ronald Campbell, Richard Eng, Anne Tall, Haleh Vafaie, Anuja Verma, Tom Suder, and Tim Harvey. "December 2017 Federal Big Data Summit Report", Technical Report *Case Number 17-3231-4*, 2018

29. Collin McRae, Patrick Benito, Chris Brown, Dave Keppler, Jeff Stein, Kevin Boston, CJ Rieser, Justin F. Brunelle, Tom Suder, and Tim Harvey. "October 2017 Federal Mobile Technology Summit Report", Technical Report *Case Number 17-3231-5*, 2018

30. Michael A. Aisenberg, R. Scott Paul, Nickyra M. Jackson, Bill Hill, Said A. Masoud, Brian W. McKenney, Mari J. Spina, Justin F. Brunelle, Tom Suder, and Tim Harvey. "January 2018 Federal CISO Summit Report", Technical Report *Case Number 17-3231-6*, 2018

31. Justin F. Brunelle, Restricted Distribution, MITRE Product *MP180341*, 2018

32. Michelle Casagni, Melissa Heeren, Rick Cagle, Richard Eng, Jennifer Flamm, Seth Goldrich, Diane Hanf, Michael Kristan, Justin F. Brunelle, Tom Suder, and Tim Harvey. "March 2018 Federal DevOps Summit Report", Technical Report *Case Number 17-3231-7*, 2018

33. John Griffith, Sophia Applebaum, David Goldenberg, Clara Hall, Chuck Howell, Marc Schneider, Daniel Weiss, Justin F. Brunelle, Tom Suder, and Tim Harvey. "January 2018 Federal Emerging Technologies Summit Report", Technical Report *Case Number 17-3231-8*, 2018

34. Justin F. Brunelle, AJ Bognar, Vibha Dhawan, Nicole Gong Parrish, Andy King, Vidyababu Kuppusamy, Mano Malayanur, Tom Suder, and Tim Harvey. "July 2018 Federal Cloud & Data Center Summit Report", Technical Report *Case Number 18-2725-1*, 2018

35. Justin F. Brunelle. Restricted Distribution, MITRE Working Note *WN180068*, 2018

36. Justin F. Brunelle. Restricted Distribution, MITRE Product *MP180615*, 2018

37. Justin F. Brunelle, R. Patrick Benito. Restricted Distribution, MITRE Product *MP180745*, 2018

38. Patrick Benito, Darshan Kadam, Jeff Stein, Mark Russell, Cj Rieser, Kate Donovan, Frank Vasquez, John Griffith, Justin F. Brunelle, Tim Harvey and Tom Suder. "August 2018 Federal Mobile Computing Summit Report", Technical Report *Case Number 18-2725-5*, 2018

39. Justin F. Brunelle. Restricted Distribution, MITRE Product *MP01035706*, 2018.

40. Justin F. Brunelle, Eileen Durkin, Mark Wahnish, Robert Cherinka, Pat Benito. Restricted Distribution *MTR200355*, 2018

41. Duane Blackburn, Justin F. Brunelle, Barry Costa, Poornima Deshpande, Jim Cook, Nancy Correll, Brian Abe, Bill Klein, Kip Payne, Harry Perper, David Powner, Samuel Visner, Sanith Wijesinghe. "Response of the MITRE Corporation to the NIST RFC on the ROI initiative Green Paper (Draft NIST Special Publication 1234)", MITRE Product *Case Number 18-2319-19*, 2019

42. Mark Wahnish, Ronald Campbell, Robert Daniels, Lisa Glikbarg, Glenda Hayes, Scott Renner, Cj Rieser, Justin F. Brunelle, and Tom Suder. "October 2018 Federal Big Data and Analytics Computing Summit Report", Technical Report *Case Number 18-2725-6*, 2019

43. Mano Malayanur, Sharon Mayer, Tamara Ambrosio-Hemphill, Hugh Goodwin, Vidyababu Kuppusamy, Bruce Patterson, Howard Small, Justin F. Brunelle, and Tom Suder. "December 2018 Federal IT Modernization Summit Report", Technical Report *Case Number 18-2725-7*, 2019

44. Justin F. Brunelle, Dan Frisk, Ben Mayer, Paula Randall. "Questionnaire: Measuring Impact for Innovation Organizations", MITRE Work *Case Number 19-0201*, 2019

45. Justin F. Brunelle, Dan Frisk, Ben Mayer, Paula Randall. "Measuring Innovation", MITRE Work *Case Number 19-0200*, 2019

46. Justin F. Brunelle, et al. Restricted Distribution, MITRE Technical Report *MTR190197*, 2019

47. Mano Malayanur, Sharon Mayer, Tamara Ambrosio-Hemphill, Hugh Goodwin, Vidyababu Kuppusamy, Bruce Patterson, Howard Small, Justin F. Brunelle, and Tom Suder. "December 2018 Federal IT Modernization Summit Report", Technical Report *Case Number 18-2725-8*, 2019

48. Melissa Heeren and Michelle Casagni and Jules Burgo and Rick Cagle and Vibha Dhawan and Richard Eng and Jennifer Flamm and Noreen Gilsinn and Diane Hanf and Deanna Stanley and Justin F. Brunelle and Tom Suder. "March 2019 Federal DevOps Summit Report", Technical Report *Case Number 18-2725-10*, 2019

49. Mari Spina, Donald B. Faatz, David S. Weitzel, R. Scott Paul, Tracy A. Teter, Lynette F. Wilcox, Nicole G. Parrish, Justin F. Brunelle, and Tom Suder. "March 2019 Federal CISO Summit Report", Technical Report *Case Number 18-2725-11*, 2019

50. Justin F. Brunelle, Cameron Boozarjomehri, David Hansen, Christine Kim, R. Scott Paul, Quang Nguyen, Rock Sabetto, Gavin Schmidt, Mari Spina, Joseph Walter, Katy Warren, Adam Yee, and Tom Suder. "June 2019 Federal Cloud & Infrastructure Summit Report", Technical Report *Case Number 18-2725-12*, 2019

51. Justin F. Brunelle, Ron Bass, Gavin Schmidt. Restricted Distribution, MITRE Technical Report *MTR190546*, 2019

52. Gavin Schmidt, Ron Bass, Justin F. Brunelle. Restricted Distribution, MITRE Technical Report *MTR190547*, 2019

53. Gavin Schmidt, Ron Bass, Justin F. Brunelle. Restricted Distribution, MITRE Technical Report *MTR190548*, 2019

54. Trevor Bostic, Jeff Stanley, John Higgins, Daniel Chudnov, and Justin F. Brunelle. Demodocus: Automated Testing of Dynamic Web Content *Case Number 19-2962*, 2019

55. Jeff Stein, Cameron Boozajomehri, John Remmes, DJ Shyy, Collin McRae, Cj Rieser, Justin F. Brunelle, and Tom Suder. "August 2019 Federal Mobile Summit Report", Technical Report *Case Number 19-02491-1*, 2019

56. Erik Miller, Cameron Boozajomehri, Anneliese Braunegg, Francis Campion, Jordan Carlile, Richard Eng, Mike Hadjimichael, Hannah Hess, Ha Nuel Lee, Danny Nsouli, Mari Spina, Justin F. Brunelle, and Tom Suder. "October 2019 Federal Artificial Intelligence & Big Data Summit Report", Technical Report *Case Number 19-02491-2*, 2019

57. Justin F. Brunelle, et al. Restricted Distribution, MITRE Technical Report *MP01049164*, 2019.

58. Mano Malayanur, Sharon H. Mayer, Diane L. Kuhla, Samar M. Zayed, Taylor R. Bacon, Christine J. Kim, Joseph Walter, Keren Bassey, Nicki Crane, Hugh Goodwin, Erik P. Miller, Bruce R. Patterson, Katy Warren, David M. Levermore, Justin F. Brunelle, and Tom Suder. "December 2019 Federal IT Modernization Summit Report", Technical Report *Case Number 19-02491-3*, 2020

59. Justin F. Brunelle, Daniel Frisk, Benjamin Mayer, Paula Randall, Awais Sheikh. "From Idea to Implementation: Measuring the Impact of Innovation Acvtivities in Government", Technical Report *Case Number 20-0397*, 2020. https://bitly.com/measureInnovation

60. John Griffith, Trevor Bostic, Mano Malayanur, Mari Spina, Justin F. Brunelle, Tom Suder. "April 2019 GITEC Emerging Technology Conference Report", Technical Report *Case Number 19-02491-4*, 2020

61. Trevor Bostic, Jeff Stanley, John Higgins, Daniel Chudnov, and Justin F. Brunelle. Restricted Distribution *Case Number 20-0498*, 2020

62. Dylan Phelan and Justin F. Brunelle. Restricted Distribution, *WN200043*, 2020

63. Justin F. Brunelle, et al. Restricted Distribution, *MP200823*, 2020

64. Justin F. Brunelle, et al. Restricted Distribution, *MP200827*, 2020

65. Justin F. Brunelle, et al. Restricted Distribution, *MP200829*, 2020

66. Justin F. Brunelle, et al. Restricted Distribution, *MP200828*, 2020

67. Justin F. Brunelle, et al. Restricted Distribution, *MP200830*, 2020

68. Justin F. Brunelle, et al. Restricted Distribution, *MP210042*, 2021

69. Justin F. Brunelle, et al. Restricted Distribution, *P211-B21-014*, 2021

70. Justin F. Brunelle, et al. Restricted Distribution, *MP210239*, 2021

71. Justin F. Brunelle. A Crash Course in Web Archiving, *Case Number 20-02582-03*, 2021

72. Tracy Bannon, Justin F. Brunelle. Restricted Distribution, *MP210413*, 2021

73. Justin F. Brunelle, Mark Ginise. Restricted Distribution, *MTR210248*, 2021

74. Justin F. Brunelle, Paul Diffenderfer, Brennan Haltli. Restricted Distribution, *MP210431*, 2021

75. Justin F. Brunelle. Restricted Distribution, *MP210626*, 2021

76. Justin F. Brunelle, Mimi Leone, Gene Lin, Mark Huberdeau, Brennan Haltli.Restricted Distribution, *MP210517*, 2021

77. Justin F. Brunelle, Mimi Leone, Gene Lin, Mark Huberdeau, Brennan Haltli. Restricted Distribution, *MP210605*, 2021

78. Justin F. Brunelle, Mimi Leone, Gene Lin, Mark Huberdeau, Brennan Haltli. Restricted Distribution, *MP210518*, 2021

79. Justin F. Brunelle, Mimi Leone, Gene Lin, Mark Huberdeau, Brennan Haltli. Restricted Distribution, *MP210516*, 2021

80. Justin F. Brunelle, Avinash Pinto, Andy Anderegg, Tony Colavito, Izabela Gheorghisor, Brennan Haltli, Mark Huberdeau, Nadya Huleatt, Mimi Leone, Gene Lin, Timothy Luc, Paul MacWilliams, Awais Sheikh. Restricted Distribution, *MP210575*, 2021

81. Justin F. Brunelle, Ryan Farley, Grant Atkins, Trevor Bostic, Marites Hendrix, Zak Zebrowski "Introducing Dark Web Archival Framework", *arXiv:2107.04070*, 2021.

82. Justin F. Brunelle, et al. Restricted Distribution, *MTR210337*, 2021

83. Justin F. Brunelle, et al. Restricted Distribution, *MTR210346*, 2021

84. David Bryson and Justin F. Brunelle. WebAssembly: Current and Future Applications, *MTR210290*, 2021

85. Justin F. Brunelle, Mimi Leone, Gene Lin, Mark Huberdeau, Brennan Haltli. Restricted Distribution, *P211-B21-032*, 2021

86. Trevor Bostic, Jeff Stanley, John Higgins, Daniel Chudnov, and Justin F. Brunelle. Automated Evaluation of Web Site Accessibility Using a Dynamic Accessibility Measurement Crawler, *Case Number 21-3015 and arXiv:2110.14097*, 2021

87. Justin F. Brunelle, et al. Restricted Distribution, *MP220031*, 2022

88. Justin F. Brunelle, et al. Restricted Distribution, *MP220032*, 2022

89. Justin F. Brunelle, et al. Restricted Distribution, *MP220033*, 2022

90. Justin F. Brunelle. Restricted Distribution, *MP220072*, 2022

91. Zak Zebrowski, Grant Atkins, Ryan Farley, Justin F. Brunelle. How to Check Your Web Archive for Dark Web Contraband, *MP210625, Case Number 22-1390* (https://www.mitre.org/news-insights/publication/how-check-your-web-archive-dark-web-contraband), 2022

92. Justin F. Brunelle, Robert Cherinka, Kevin Long, Terry Rorabaugh. Restricted Distribution, *MP220905*, 2022

93. Justin F. Brunelle, Robert Cherinka, Kevin Long, Terry Rorabaugh. Restricted Distribution, *MTR220623*, 2022

94. Justin F. Brunelle, Robert Cherinka. Software Engineering Innovation Center Technology Radar: Our Curated Guide to Tech Horizons, *Case Number 22-4145*, 2022

95. Justin F. Brunelle. Restricted distribution, *MP230076*, 2023

96. Justin F. Brunelle, Daniel Winkowski. Restricted distribution, *MP230132*, 2023

97. Justin F. Brunelle. Restricted distribution, *MP230363*, 2023

98. Michael Doyle, Allison Sansone, Tim Welsh, Justin Brunelle. Restricted Distribution, 2023

99. Michael Bankston, Beth Yost, Robert Cherinka, Justin F. Brunelle. MITRE Software Engineering Innovation Center Technical Advisory Note: On the use of Large Language Models for AI-Assisted Software Engineering, *Case Number 23-2798*, 2023.

100. Justin F. Brunelle, Robert Cherinka, John Lycas, Rosalie McQuaid. Restricted Distribution, *MTR230333*, 2023.

101. Justin F. Brunelle, Mark Huberdeau, Brennan Haltli. Restricted Distribution, *P211-B23-012*, 2023

102. Erika Darling, Patrick O'Leary, Mike Sarasti, Andrew Nohle, Sanith Wijesinghe, Jaylen Thomas, Justin F. Brunelle. Restricted Distribution. *MP230871*, 2023

103. Erika Darling, Patrick O'Leary, Mike Sarasti, Andrew Nohle, Sanith Wijesinghe, Jaylen Jerome Thomas, Justin F. Brunelle. Restricted Distribution. *MP230918*, 2023

104. Justin F. Brunelle, Erika Darling, Patrick O'Leary, Mike Sarasti, Andrew Nohle, Jaylen Jerome Thomas. Restricted Distribution. *MTR230576*, 2023

105. Justin F. Brunelle, Nitin Naik, Laura Leets. Using AI to Improve Legacy IT Modernization. *Case Number 24-0929*, 2024

106. Kerrianne Marino, Robert Cherinka, Justin F. Brunelle. Software Engineering Innovation Center 2024 Technology Radar. *Case Number 24-0979*, 2024

107. Justin F. Brunelle, David Maroney, Brennan Haltli. Restricted Distribution. *MTR240204*, 2024

108. Justin F. Brunelle, et al. Restricted Distribution. *MP240790*, 2024

109. Chris Glasz, Dr. Justin F. Brunelle, Dr. Scott Rosen, Dr. Nitin Naik, Dr. Samruddhi Thaker, Jacob Zimmer, Dr. Siggy Scott, Emily Escamilla, Amit Madan, Arun Sridharan, Doug Wendt, Michael Doyle, Colin Diggs, Jasper Phillips, William Macke, Paul Kirk, Michael Bartholf, Naveed Nekoo, Zach Robin, Paul Ursino. Measuring LLM Legacy Code Documentation. *Case Number 24-3456*, Presented at the Safer World Symposium, 2024

110. Justin F. Brunelle, et al. Restricted Distribution. *MTR240566*, 2024

111. Justin F. Brunelle, et al. Restricted Distribution. *MP2403070*, 2024

112. Jyo Gadewadikar, Jeremy Martin, Samruddhi Thaker, Jacob Zimmer, Colin Diggs, Justin F. Brunelle. Transforming Legacy Systems with Generative AI: From Legacy Languages to Verifiable Intermediate Representations. *MP*, 2024

113. Jyo Gadewadikar, Jeremy Martin, Samruddhi Thaker, Jacob Zimmer, Colin Diggs, Justin F. Brunelle. AI Use cases categorization for Business Investment Prioritization . *MP*, 2024

114. Rock Sabetto, Chris Glasz, Dr. Justin F. Brunelle, Dr. Scott Rosen, Dr. Nitin Naik, Dr. Samruddhi Thaker, Jacob Zimmer, Dr. Siggy Scott, Emily Escamilla, Amit Madan, Arun Sridharan, Doug Wendt, Michael Doyle, Colin Diggs, Jasper Phillips, William Macke, Paul Kirk, Michael Bartholf, Naveed Nekoo, Zach Robin, Paul Ursino. The Role Of Intermediate Representations in Large Language Model Software Comprehension (Estimated completion. *MTR*, 2024

115. Justin F. Brunelle, et al. Restricted Distribution. *MTR 240562*, 2024

116. Justin F. Brunelle, et al. Restricted Distribution. *MTR 240563*, 2024

117. Chris Glasz, Dr. Justin F. Brunelle, Dr. Scott Rosen, Dr. Nitin Naik, Dr. Samruddhi Thaker, Jacob Zimmer, Dr. Siggy Scott, Emily Escamilla, Amit Madan, Arun Sridharan, Doug Wendt, Michael Doyle, Colin Diggs, Jasper Phillips, William Macke, Paul Kirk, Michael Bartholf, Naveed Nekoo, Zach Robin, Paul Ursino. Legacy Code Understanding in LLM Documentation Generation: Prospects and Limitations. *Case Number: 24-3245*, 2024

118. Dr. Justin F Brunelle, et al. Restricted Distribution. *MTR240635*, 2024

119. Dr. Justin F Brunelle. Restricted Distribution. *WN250001*, 2025

120. Justin F Brunelle, et al. Sestricted Distribution. *MP*, 2025

BOOK CHAPTERS

1. Justin F. Brunelle and Chutima Boonthum-Denecke. Natural Language Processing Tools. *Cross-Disciplinary Advances in Applied Natural Language Processing: Issues and Approaches*. IGI Global, 2012. 9-23. Web. 7 Mar. 2012. doi:10.4018/978-1-61350-447-5.ch002

2. Justin F. Brunelle, David Bryson, DJ Shyy, Yaakov Weinstein. Chapter Eight: The Future of Systems Architecture. *Edited Volume: Big Data for Generals... and Everyone Else over 40*. Joint Special Operations University, pgs 129-162, 2022. (Also available as a MITRE Technical Report MTR180562.)

3. Justin F. Brunelle. Chapter Five: Ideas for Cultivating Big Data Personnel. *Edited Volume: Big Data for Generals... and Everyone Else over 40*. Joint Special Operations University, pgs 91-100, 2022. (Also available as a MITRE Technical Report MTR190155.)

INVITED PRESENTATIONS

1. Justin F. Brunelle *Various Topics*, MITRE Internal Technical Exchange Meetings, 2010-present

2. Justin F. Brunelle *Digital Preservation Research at ODU*, National RRAC Archivists Meeting, Fall, 2010

3. Justin F. Brunelle *Day in the Life of a Computer Scientist*, Ocean Lakes High School Academy Information Seminar, November, 2010

4. Justin F. Brunelle *Agile Engineering*, ODU Chapter of the ACM, November, 2011

5. Justin F. Brunelle *PERL and Warrick*, ODU Chapter of the ACM, February, 2012

6. Justin F. Brunelle *Day in the Life of a Computer Scientist*, ODU CS110 Guest Lecture, November, 2011

7. Justin F. Brunelle *What is Computer Science?*, Benjamin Syms Middle School, November, 2011

8. Justin F. Brunelle *Agile Engineering Principles*, Old Dominion University, September, 2012

9. Justin F. Brunelle *Leveraging Academia in Government Cloud Computing Research*, Federal Cloud Computing Summit, 2013

10. Justin F. Brunelle, Daniel Ruiz; Session Lead: *MITRE-AMARC Collaboration Sessions*, Federal Big Data Summit, 2014

11. Justin F. Brunelle; Panel: *MITRE-AMARC Collaboration Sessions*, Federal Cloud Computing Summit, 2014-2016

12. Justin F. Brunelle *MITRE Hampton Roads 101*, ODU Chapter of the ACM, February 2016

13. Justin F. Brunelle *Panel Interview: Answering Your Cloud Computing Questions*, GovLoop's DorobekINSIDER Live, May 2016

14. Justin F. Brunelle, Joseph Portner *Pizza My Mind: MITRE 101*, CNU, September 2016

15. Justin F. Brunelle *Building a Researcher*, New Horizons Governor School for Science and Technology, November 2016

16. Justin F. Brunelle *Big Data, High Performance Computing, and Simulation*, Panel, MODSIM World, 2018

17. Justin F. Brunelle, Steve Foote, Tim Rice *Building Agile (Gov't) Programs*, Systems Engineering Research Center Workshop, *Case Number 18-2725-4*, 2018

18. Justin F. Brunelle *"A PAIR OF ACES" - YOUR DATA IN A BIG DATA SOCIETY*, Keynote Panel, MODSIM World, 2019

19. Justin F. Brunelle, Dan Frisk, Ben Mayer, Paula Randall, *Preliminary Findings – Measuring Government Innovation Study*, Illuminate Knowledge Share, 2019

20. Justin F. Brunelle, *ODU WSDL Ask Me Anything*, 2020

21. Katy Warren, Justin F. Brunelle, *Cloud Migration*, The Role of Emerging Technology in the Federal Emergency Response Virtual Summit, 2020

22. Justin F. Brunelle, Benjamin Mayer, *Measuring Innovation*, Sponsor-invited presentation, 2020.

23. Justin F. Brunelle, Bob Cherinka, *Data Science Panel*, ODU College of Sciences, Moderator, 2021.

24. Justin F. Brunelle, Daniel Frisk, Paula Randall, Ben Mayer, *Measuring Innovation*, MITRE Sponsor, August 2021.

25. Justin F. Brunelle, Emily Stelzer, *Measuring Government Innovation*, FAA V&V Summit, September 2021.

26. Justin F. Brunelle, *Measuring Government Innovation*, Federal Innovation Summit, Partership for Public Service, January 2022.

27. Justin F. Brunelle, *Justin Brunelle: Principal Researcher*, ODU CS800, March 2022.

28. Justin F. Brunelle, *From Academia to Industry: A Case Study*, Industry Speaker Series, Old Dominion University Department of Computer Science, March 2022.

29. Justin F. Brunelle, *From Academia to Industry: A Case Study*, Industry Speaker Series, Old Dominion University Department of Computer Science, March 2022.

30. Justin F. Brunelle, *The Mismatch Between Web Technologies and Web Crawling*, REU Symposium, Old Dominion University, June 2022.

VOLUNTEER
SERVICE

1. **Old Dominion University Department of Computer Science Advisory Board(March 2019-Present)**

   - Committee chair – Curricular review / Scholarship / Research Committee

2. **Scouts BSA, Cubmaster Pack 791 (February 2022-Present)**

   - Leads an organization of 60 cub scouts and over 150 people total
   - Includes setting budgets, fundraising, events/activities, and community service opportunities
   - Building, maintaining, and training volunteer leadership team

Referee Service

1. Program Committee Member for JCDL (2016-present)

2. Program Committee Member for IARIA (2016-present)

3. Program Committee Member for ICWSM (2021-present)

4. Reviewer, Defense Acquisition Research Journal (2022)

5. Panel Reviewer, MassChallenge Stage 2 Startups (2022)

6. Organizing Committee, NATO Industry Forum (2021)

7. Program Committee Member for IEEE Content & Activity Engineering (2019-2024)

8. Program Committee Member for WADL (2018-2024)

9. Program Committee Member for AIMSA Conference (2016-2024)

10. Program Committee Member for FLAIRS Conference (2010-2016, 2019-2024)

11. MITRE Lead, Federal Technology Summit Series (2016-2020)

12. MITRE Chair, Federal Cloud & Data Center Summit (2014-2020)

13. Reviewer for SATURN (2019)

14. International Journal of Digital Libraries (2014-2018)

15. External Advisor, JSOU Big Data Symposium (February 2018)

16. NSF Information Retrieval Panel (2018)

17. MITRE Co-Chair, Federal Big Data Summit (2017)

18. Journal of Computer Engineering & Information Technology (2017)

19. Organizing Committee Member (posters/demos chair) for JCDL (2017)

20. Hampton Technology Student Association Competition Judge (2015)

21. ARTSI Competition Judge (2010, 2012)

Workshop Participation

1. IIPC General Assembly - Archiving the Future Web, April 2012

2. Web Archiving Cooperative workshop at Stanford, June 2012

3. Doctoral Consortium - JCDL, June 2012

4. How I Spend My Summer Vacations - WADL, July 2013

5. Federal Big Data Summit, June 2014

6. Doctoral Consortium - JCDL, June 2017

7. NASA Langley 100th Anniversary Centennial Symposium, July 2017

8. Federal Big Data Summit, December 2017

9. JSOU Big Data Symposium, February 2018

10. MODSIM World, April 2018

11. Chief Data & Analytics Officer, Government event, May 2018

12. SOFWERX PIA & Lab Collaboration Event, December 2018

13. Your Connected Future Conference, April 2019

14. MODSIM World, April 2019

15. Illuminate Knowledge Share, May 2019

16. IHSED2019 Security Session, September 2019

17. AFIMSC Innovation Summit, September 2020

18. IRI Innovation Conference, April 2020

19. AFWERX Accelerate, December 2020

20. Federal Technology Summit Series, 2013-2020

21. TRIAD Ohio, August 2020, April 2021, August 2021

22. NATO Industry Forum – Linked, May 2021

23. NY Defense Innovation Summit, May 2021

24. San Antonio Innovation Summit, August, 2021

25. FAA V&V Summit, September, 2021

26. MITRE Job Shadowing Program, Summer 2021, Winter 2022

27. IRI TRACK Workshop: Tapping External Technology to Accelerate Innovation & Growth, January 2022

28. AFWERX Industry Days, January 2023

29. HQ ACC Industry Day, April 2023

AWARDS & RECOGNITION

1. BSA Eagle Scout, 2003

2. Gene Newman Award for best paper - Lockheed Martin General Sciences track 2008

3. ODU Computer Science Department Outstanding Research Assistant, 2008

4. Birnbaum Scholarship award, SCiP 2009

5. MITRE Spot Award, 2012

6. MITRE Spot Award, 2013

7. Nominated for MITRE's Early Career Research Program, 2013

8. MITRE Director's Award, 2014 Cloud Computing Summit, 2014

9. MITRE Spot Award, Federal Big Data Summit, 2014

10. Best Student Paper, DL2014, 2014

11. Best Poster, JCDL2015, 2015

12. ODU Computer Science Department Outstanding Researcher, Fall 2015

13. MITRE SERA Award, 2016

14. MITRE Department Manager's Award, STEM Outreach, 2016

15. MITRE SPARK Award, ONR Support, 2016

16. MITRE SPARK Award, VA Support, 2017

17. MITRE Ribbons for Outreach Activity Recognition (quarterly, Q4 2017-present)

18. MITRE SPARK Award, Innovation Cell Planning, 2018

19. MITRE SPARK Award, Sponsor Experimentation Campaign, 2018

20. MITRE SPARK Award, Web Science Publication, 2019

21. MITRE SPARK Award, Software Prototype Effort, 2019

22. MITRE Catalyst Award, Federal Summit Series, 2019

23. MITRE SPARK Award, Local staff mentorship, 2020

24. Defense Acquisition Research Journal's 2nd place in the 2020 Edward Hirsch Acquisition and Writing Competition Award

25. MITRE SPARK Award, Sponsor Engagement, 2021

26. MITRE Best Paper Competition: Incentive Award, *Measuring the Impact of Innovation Activities in Government*, 2021

27. MITRE Trailblazer, Sponsor engagement, 2021

28. MITRE SPARK Award, Sponsor Engagement, 2021

29. MITRE SPARK Award, Project Contribution, 2021

30. MITRE Catalyst Award, IR&D Project, 2021

31. MITRE Program Recognition Award, IR&D Project, 2022

32. ODU Alumni Association 40 under 40, Class of 2023

33. MITRE SPARK Award, Internal Staff Recognition, 2023

34. MITRE SPARK Award, Internal Staff Recognition, 2023

35. MITRE Trailblazer Award, Internal Staff Recognition, 2024

36. MITRE Catalyst Award, Internal Staff Recognition, 2024

37. MITRE Trailblazer Award, Internal Staff Recognition, 2024

38. MITRE Synergist Award, Internal Staff Recognition, 2024

39. MITRE Spark Award, Internal Staff Recognition, 2024

40. MITRE Trailblazer Award, Internal Staff Recognition, 2025

41. MITRE Trailblazer Award, Internal Staff Recognition, 2025

TEACHING EXPERIENCE	1. Introduction to Web Development (TCC, 2008 & 2009)

1. Introduction to Web Development (TCC, 2008 & 2009)

2. Introduction to Modeling and Simulation for Game Developers (TCC, 2008 & 2009)

3. Advanced Modeling and Simulation for Game Developers (TCC, 2009)

4. Consulted for City of VA Beach Parks and Rec's Video Game Design course (2011)

5. CS418/518: Web Programming, Old Dominion University (Fall 2016, 2017, 2018)

6. CS891: Introduction to Emerging Technologies, Old Dominion University (Fall 2019)

STUDENTS

1. *Mentor, Ocean Lakes High School*: Brian Hsiung (2012)
Accenture

2. *Mentor, New Horizon's Governor School*: Jackie Morin (2012)
MITRE

3. *Mentor, New Horizon's Governor School*: John Herman (2013)
Google

4. *Mentor, New Horizon's Governor School*: Radha Venkatesan (2014)
MS student at Anna University

5. *Mentor, New Horizon's Governor School*: Wes Jordan (2015)
MITRE

6. *Mentor, New Horizon's Governor School*: David Thames (2016)
Amazon AWS, Google

7. *Mentor, Hickory High School*: Gavin Alberghini (2016, 2017)
MITRE

8. *Mentor, New Horizon's Governor School*: Emily Vogt (2017)
MITRE

9. *Mentor, New Horizon's Governor School*: Ryan Lenfant (2018)
Undergrad in CS at UVA

10. *MS Committee, ODU*: John Berlin (2018)
Webrecorder.io

11. *PhD Committee, William & Mary*: Nicolas Van Balen (2017)
MITRE

12. *PhD Committee, ODU*: Mat Kelly (2019)
Drexel University

TRAINING COURSES

- Hands-on Hadoop (MITRE Institute 2012)
- Cloud Computing (MITRE Institute 2012)
- DoD Cloud Forum (MITRE Institute 2013)
- Community-led Action in Response to Violent Extremism (University of Maryland START, 2018)
- MITRE Innovation Program Innovation Cohort (2020-2021)
- Red Cross Adult, Child and Baby First Aid/CPR/AED (2021)
- Scouts BSA Youth Protection Training (2021-2023)
- Scouts BSA Cubmaster and Den Leader Training (2021-2023)

PROFESSIONAL
EXPERIENCE

Chief Scientist - Software Engineering Innovation Center, The MITRE Corporation (February 2010 - present)

- Chief Scientist, Software Engineering Innovation Center (2022-present). Responsible for internal and external research and innovation of the Innovation Center's staff. Responsible for the duties of the Technology Integrator (detailed below) as well as external R&D, such as externally competed proposals, research partnerships, and quality of deliverables. Responsible for setting research vision, strategy, and execution for the Innovation Center.

- Created and implemented an internal research program to increase MITRE's external research brand and technical recognition while also improving value to sponsors and work shaping opportunities. Scaled the program from a pilot program for the Software Engineering Innovation Center and grew the program to a MITRE Labs-wide program. After demonstrated success, the program grew from a program for a 500-person organization to a 5,000-person business unit.

- Designed, executed, and groomed future leadership for handoff of a program designed to increase the external publication of MITRE's research contributions. The goal of the program is to increase external publication and research contributions across the L500 sub-sector by funding researchers to complete and release publications. This program is focused on shifting the culture of publication and research in the sub-sector.

- Software Engineering Innovation Center's Technology Integrator (2016-2022). The Center contains over 500 employees that participate heavily in MITRE's IR&D programs. Responsibilities include setting research direction, strategy, and navigating external research partnerships for the Center. Estsablished the Research and Innovation Strategy to motivate and incentivize contributions to IR&D and novel work in support of MITRE's sponsors. Responsible for the Center's contributions, alignment, and success of proposal submissions to MITRE internal and external research venues. Established programs to train research staff, worked to assure quality of research products, and enhancing the value delivered to MITRE and its sponsors. In 2019, established an Innovation Center research program designed for early career researchers and focused on research in software engineering, awarding research funding to employees after a peer-review-based proposal competition.

- MITRE's lead for the ATARC partnership and Federal Technology Summit Series, including Mobile, Big Data, Cloud, Emerging Technologies, Agile and DevOps, IT Modernization, and Cyber Security (2012-2020). The Federal Technology Summits typically include over 200 attendees from industry, academia, FFRDC, and government (including executive officers and practitioners). Leading a team of 8 event chairs and over 80 employees annually. Created an early-career launchpoint into MITRE's Technical Career Path through the summits. Lead the authorship and delivery of summary publications with recommendations for MITRE sponsors after each summit.

- PI/Co-PI of multiple innovation, emerging technology, and web science internal research and development projects. Current primary focus is increasing MITRE's competencies in web crawling and deepening MITRE's technical "bench strength" in web crawling; trained teams to combine technical expertise and sponsor domain operational expertise and apply this intersectional knowledge to strengthen MITRE's contribution to sponsor missions. Current projects include experimentation and research in dark web crawling.

- Lead multiple government, startup, and commercial technical evaluations to include external tech scouting, innovation engagements, and proposal reviews. Participated

and lead efforts in the SBIR/STTR and competitive research for funding evaluations and technical and research review.

- MITRE subject matter expert in web science and researcher for emerging technologies (e.g., big data, cloud, mobile, internet of things).
  - Chief Scientist for data-to-decisions efforts in support of a DoD sponsor. Responsibilities include leading technology recon efforts, experimental design and evaluation, and technical leadership regarding big data experimentation.
  - Extensive data management, cloud computing, and innovation experience and expertise.
  - Experience leading multi-disciplinary teams of varying sizes and demographics to benefit sponsors and their missions; task goals typically revolve around government adoption or refinement of emerging technologies to achieve strategic goals.
  - Technical advisor on cloud computing and other emerging technologies to numerous government sponsors, to include Federal Aviation Administration, Veteran's Affairs, Department of Defense, and Intelligence Community sponsors.
- Hampton Roads site STEM outreach coordinator (2011-2016).
- Hampton Roads site lab manager (2010-2014).

Adjunct Assistant Professor - Old Dominion University (August 2016 - December 2019)

- Designed and taught graduate web development course during Fall semester of 2016, 2017, and 2018 (ODU CS518)
- Designing doctoral course on Introduction to Emerging Technologies (and included research methodologies training) for Fall semester of 2019 (ODU CS891)

Adjunct Instructor - Tidewater Community College (July 2008 - August 2009)

- Designed and taught web development, introduction to modeling and simulation for game development, advanced modeling and simulation for game development
- Week-long STEM courses that targetted high school students

Lead Developer - iSTART (June 2003 - May 2010)

- Held positions of software tester, web developer, and lead programmer
- Project focused on natural language processing for intelligent tutoring systems and serious games
- Designed and developed research tools and module elements
- Lead a team of 2-3 developers at ODU in support of partners at the University of Memphis to include design specifications, progress reports, testing, and team management