Jeff Solka Ph.D.
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Employment:

**Naval Surface Warfare Center Dahlgren Division:**                    **1984-20 May 2023**
Dahlgren, Virginia
       The Naval Surface Warfare Center Dahlgren Division (NSWCDD) originally established itself as the major testing area for naval guns and ammunition. Today, it continues to provide the military with the development and integration of warfare systems for the warfighter, warfighting and the future fleet.

**Distinguished Scientist for Naval Data Sciences NSWCDD**:                    **2019-20 May 2023**
       Responsible for leading strategic planning at NSWCDD in the areas of artificial intelligence, machine learning, data sciences, quantum sciences and intelligent automation

- Advise the Chief Technology Officer (CTO) in these key areas and evaluate Naval Innovative Science and Engineering (NISE) proposals in artificial intelligence, machine learning, data science and intelligent automation.
- Lead the development and implementation of a technical advisory panel in the areas of artificial intelligence, machine learning, and data science.
- Work closely with Task Force Hopper Group to stand up the group and to implement technical evaluation criteria for proposals that were submitted to the group.
- Develop and test a training program in artificial intelligence, machine learning, and data science.
- Serve as the principal investigator for Cooperative Research and Development (CRADA)s with Carnegie Mellon University, Spear AI, and NVIDIA

**Chief Scientist NSWCDD:**                    **October 2017-19 August 2019**
       Responsible for the development and execution of basic and applied research strategies at NSWCDD.

- Lead the basic and applied research portion of the Naval Innovative Science and Engineering (NISE) portfolio.
- Lead the Office of Naval Research funded In-house Laboratory Independent Research (ILIR) and Independent Applied Research (IAR) Programs
- Review technical material for public release
- Identify future threats and advise the CTO, TD, and CO in these areas.
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**Chief Technology Officer Acting NSWCDD:**                    **June 2017-October 2017**
       Responsible to develop a strategic technical vision for NSWCDD.

- Lead a command level team in the development of a technical roadmap with analysis to inform NSWCDD leadership of the way ahead, opportunities to invest in programs that improve warfighting and prepare for current and future threats.
- Represent NSWCDD in interactions with other warfare center personnel including Technical Directors and Chief Technology Officers.

**Program Director ONR ILIR/IAR Programs NSWCDD:**                                    **2008-2019**

Responsible for management of the Office of Naval Research funded In-house Laboratory Independent Research (ILIR) and Independent Applied Research (IAR) Programs for NSWCDD.
- Lead the ILIR/IAR Technical Advisory Panel in the evaluation and review of proposals and ongoing efforts.
- Foster the development of intellectual property including 67 referred journal papers and 27 awarded patents.
- Mentor the workforce in the pursuit of advanced degrees resulting in 26 advanced degrees.
- Review technical material for public release.

**Lead: Computational Statistics and Applied Mathematics Group NSWCDD  2000-June 2017**

Responsible for overseeing basic research, applied research, and prototyping in the areas of artificial intelligence, machine learning, data sciences, and applied mathematics.
- Serve as principal investigator on efforts that have been funded by ASD R&E OTI, DARPA, DHS, U.S. Marine Corps, ONR, ONRG and other members of the intelligence community.
- Deploy systems for operational testing in the areas of computer vision, cyber security, and technology watch/horizon scanning.
- Selected Principal Scientist 2000
- Selected Fellow of the American Statistical Association 2007.

**Scientist NSWCDD:**                                                             **1984-2000**

Responsible for conducting basic research, applied research, and prototyping in the areas of satellite geodesy, strategic defense, artificial intelligence, machine learning and data sciences.
- Produce referred journal publications appearing in over 23 journals.
- Produce 4 patents.
- Produce software/algorithms supporting numerous systems including the missile attack response simulator (MARS), the advanced distributed region of interest tool (ADROIT), and others.

**Graduate Adjunct Professor in the School of Systems Biology George Mason University**:     **1995-Present**

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Lead the development of various courses in the areas of computational statistics, computational mathematics, and bioinformatics.
- Lead the development of unique programming/data science curriculum in bioinformatics.

- Teach a wide variety of courses including scientific and statistical visualization, scientific and statistical databases, data mining, programming for biologists, research methods in biology, and others.
- Teach bioinformatics lab rotation courses and help advise students conducting research.

**Adjunct Professor of Computer Science the University of Mary Washington: 2014-Present**
Lead the development of various courses in the computer science.
- Taught an Introduction to Modeling Course.
- Taught an Introduction to Computer Science Course
- Developed and taught an Introduction to Text Data Mining Course.
- Developed and taught a Neural Networks course.
- Developed and taught a Deep Learning with Python course.

**Education:**

**George Mason University**                                                                    **1995**
**Fairfax, Va.**
Ph.D., Computational Sciences and Informatics (Computational Statistics)

**Virginia Polytechnic Institute and State University**                            **1989**
**Blacksburg, Va.**
M.S., Physics

**James Madison University**                                                                   **1981**
**Harrisonburg, Va.**
M.S., Mathematics

**James Madison University**                                                                   **1978**
**Harrisonburg, Va.**
B.S., Mathematics and Chemistry

# Jeff Solka Ph.D.
## Biography

Jeff Solka Ph.D. was the Distinguished Scientist for Naval Data Sciences of the Naval Surface Warfare Center Dahlgren Division (NSWCDD), The Naval Surface Warfare Center Dahlgren Division (NSWCDD) originally established itself as the major testing area for naval guns and ammunition. Today, it continues to provide the military with the development and integration of warfare systems for the warfighter, warfighting and the future fleet. In this role Jeff was responsible for crafting the NSWCDD strategy in artificial intelligence, machine learning, data sciences, and intelligent automation (2019-30 May 2023).

Prior to being the Distinguished Scientist for Naval Data Sciences at NSWCDD Jeff was the Chief Scientist at NSWCDD. In this role he oversaw basic and applied research at NSWCDD. (2005-2012)

From June 2017- October 2017 Jeff was the NSWCDD Chief Technology Officer Acting.

He served as the Program Director of the Office of Naval Research funded In-house Laboratory Independent Research (ILIR) and Independent Applied Research (IAR) Programs for NSWCDD (2008-2019).

Prior to becoming the Chief Scientist Jeff was the Group Lead for the Computational Statistics and Applied Mathematics Group NSWCDD (2000-2017). In this role he served as the principal investigator on efforts that have been funded by ASD R&E OTI, DARPA, DHS, U.S. Marine Corps, ONR, ONRG and other members of the intelligence community. Jeff and his team founded the Navy efforts in Technology Watch/Horizon Scanning and helped pave the role for this discipline across the other DoD components and the intelligence community (2004-2017).

From 1984 to 2000 Jeff conducted basic research, applied research, and prototyping in the areas of satellite geodesy, strategic defense, artificial intelligence, machine learning and data sciences. He has published over 120 journal, conference, and technical papers that have received over 2200 citations and have appeared in over 23 journals. He also holds 4 patents.

Jeff has served as an Adjunct Graduate Professor in the School of Systems Biology George Mason University (1995-Present).

Jeff has served as an Adjunct Professor of Computer Science the University of Mary Washington (2014-Present).

Jeff holds a Ph.D., Computational Sciences and Informatics (Computational Statistics), George Mason University, Fairfax Va., (1995), a M.S., Physics, Virginia Polytechnic Institute and State University, Blacksburg, Va. (1989), a M.S., Mathematics, James Madison University, Harrisonburg, Va.(1981), and a B.S., Mathematics and Chemistry, James Madison University, Harrisonburg, Va. (1978). Jeff has presented his work as an invited speaker at numerous professional society meetings including the annual Joint Statistical meeting, the annual SPIE meeting, and the annual meeting of the Interface Foundation. He was elected Fellow of the American Statistical Association in 2007. He was the NAVSEA Knowledge Point Champion in the areas of artificial intelligence/machine learning, digital sciences, and quantum sciences (2019- May 2023). Jeff has served as a technical advisor to several organizations in the DoD and intelligence community. (2004 – 2017).