

NAML 2022 Panel Discussion Schedule

Last updated: 2/10/2022

Weds, 23 MAR 2022 (working copy)

		Track 1		Track 2		Track 3	
Time (PST)	Title	Author	Title	Author	Title	Author	
11:00	Algorithms	Keith Sullivan, Naval Research Laboratory	Course of Action Engineering	CAPT Scot Miller (Ret.), Naval Postgraduate School	Autonomy	TBD	
	On General Cyclical Training of Neural Networks	Leslie Smith, Naval Research Laboratory	Modeling Medical Evacuation USuV Routing Under Stochastic Demands and Adversary Movements Using Online Optimization	Kenneth Marler, Naval Postgraduate School	Performative Analysis of Sensor Limitations in Communications Denied Autonomous Swarms	Kristy Sakano, Naval Air Warfare Systems Command	
	Variational Perspective on Learning Rules for Networks with an Energy Function	Mario Ancona, Florida State University	Battle Management Aids: Leveraging Artificial Intelligence for Tactical Decisions	Bonnie Johnson, Naval Postgraduate School	Mission Planning Using Differential Games and Deep Learning	Arjuna Flenner, GE Aviation	
	Quantum Assisted Machine Learning (QAML) - Promises and Challenges	Ramiro Rodriguez, Naval Information Warfare Center Pacific	Simulating a Complex Enterprise Using an Asymmetrical Wargame Simulation with Soar Reinforcement Learning, Coevolutionary Algorithms, and Lexical Link Analysis	Ying Zhao, Naval Postgraduate School	A Method to Compress and Transmit Optimal Reorientation Commands to a Spacecraft Using Long Short-Term Memory Neural Network Autoencoders	Brian Wade, Naval Postgraduate School	
	Bayesian Deep Learning for Navy Applications	Pedro Ortiz, Naval Postgraduate School	White cell automated adjudication for TEVV/LVC facilities in assessing Autonomous technology strengths and weaknesses	Bruce Nagy, Naval Air Warfare Center Weapons Division, China Lake	Application of AI/ML to Improve Unmanned Surface Vessel Machinery Control System Fault Handling	Andrew Sabater, Naval Information Warfare Center Pacific	
	How useful are Cyclostationary Features in Classifying Digitally-Modulated Waveforms	Anthony Tai, Naval Surface Warfare Center, Crane Division	Maximizing Data Capabilities for Decision Making with Artificial Intelligence (AI) / Machine Learning (ML) in a Naval Future Knowledgebase System of Systems (FKSS)	Kasey Miller, Naval Postgraduate School	Assuring Autonomous Cyber Physical Data Driven Systems (AA-CPDDS)	Ramesh Bharadwaj, Naval Research Laboratory	
11:45	Robustness and Security	Jane Berk, Naval Information Warfare Center Pacific	Fleet Readiness	TBD	Special Session		
	ATLAS (Adversarial Threat Landscape for AI Systems)	Josh Harguess, Christina Liaghati, Jonathan Broadbent, and Keith Manville, MITRE	AI Driven Cost-Wise Readiness: Machine Learning Applications in Aircraft Maintenance Scheduling Optimization and Risk Management	Kyle Blond, Georgia Tech Research Institute	NPS-Next and Addressing Fleet Priorities	TBD , Naval Postgraduate School	
	A Resilient ML Architecture Approach	Josef Schaff, Naval Air Warfare Center Aircraft Division	Ensemble Machine Learning to Facilitate High Confidence Chronological Augmentation of Input Data Sets Used for Predictive Risk Modeling	Matthew McCombs, Naval Safety Center			
	VALIDnet: A General Defense against Adversarial Examples in Neural Networks	Edgar Jatho, U.S. Navy	Improving Mission Readiness using AI/ML Enabled Predictive Analytics	David Alvord, Georgia Tech Research Institute			
	On Dogs and Cats and Adversarial Attacks	Donald Waagen, Air Force Research Laboratory	Daily Readiness Predictions with the Digital Aviation Readiness Technology Engine	Jamal Rorie, Naval Information Warfare Center Pacific			
12:30	Safety and Assurance	TBD	Natural Language Processing and Data Science	Jeffrey Bennett, Naval Information Warfare Center Pacific	Special Session		
	Safety in Artificial Intelligence-Enabled Warfare Decision Aids	Bonnie Johnson	Development of the Automated Clinical Encounter Repository: Using natural language processing algorithms to medically code clinical notes in the electronic health record	James Zouris, Naval Health Research Center	Understanding Autonomous Systems	Monica DeZulueta, Microsoft	
	Designing Safety into AI Enabled Systems	Christopher Green	ARISE - Using Similarity for Recommendations	Alicia Scott, Naval Surface Warfare Center, Crane Division			
	Measuring the competency and reliability of ML Systems	Michael Planer	Operational Safety Risk Indicators	Jillian Jarrett, COMNAVSURFOR			
	Understanding and Assessing Safety in Artificial Intelligence Systems	Joshua Kroll	Predicting the Threat: Investigating Insider Threat Psychological Factors With Advanced Natural Language Processing	Matthew Levy, Naval Information Warfare Center Pacific			
	Seascape: An Algorithm Benchmarking Framework	Todd Pitts	Vendor Name Fuzzy Matching using Spark	Karen Frech, ASN FM&C FMDDT			

Thurs, 24 MAR 2022 (working copy)

		Track 1		Track 2			
Time (PST)	Title	Author	Title	Author	Title	Author	
10:45	Computer Vision	TBD	Radiofrequency and Acoustic Machine Learning	Haik Manukian, Naval Information Warfare Center Pacific			
	High Performance Geospatial Image Processing at the Edge	May Casterline	Radar Specific Emitter Identification (SEI) Against Modern Commercial Navigation Radar	Adam Hosford			
	SEACOP-21	Nathan Fogler	HOGAN: High-Frequency Observability Generative Adversarial Network	Tanya Cheung and Erich Walter			
	Pose Estimation Techniques for PATRIOT (Panoramic Asset Tracking of Real-time Information for the Ouija Tabletop)	Ari Goodman	Data-centric Interpretable Machine Learning for Novelty Detection in High Impact Navy Applications	Katarina Doctor			
	Determining the Intensity of Atmospheric Turbulence Using Blurred Images and a CNN	John Burkhardt	Zero-Shot Signal Decomposition for Active Sonar Data	Jonathan Botts			

Building biologically-inspired object tracking systems	David Crandall	Cognitive and Agile Radio	Ying Zhao		
11:30 Synthetic Data	Jake Ramirez, Naval Information Warfare Center Pacific	Cyber Security	John Emanuella	Neuromorphic Computing	Kyle Henke, Los Alamos National Laboratory
Generating Realistic RF Test Data Through Style Transfer	John Rafferty	Autonomous network defence using Reinforcement Learning within CyberBattleSim	Laura Wright	CNNs With a Neuromorphic Sparse Coding Frontend are More Robust to Adversarial Attacks	Michael Teti, Los Alamos National Laboratory
Application of Machine-Learned Heuristics to the Modeling of Fatigue in ABS Plastic Structures across Loading Profiles and Fill Patterns	Celeste Brown	Secure, Privacy-Preserving Machine Learning	Jennifer Sierchio	NeuroPipe ARAP Hardware & Algorithms	Nathan McDonald, Air Force Research Laboratory
Synthesizing Robustness: On The Nuances of Extracting Utility from Synthetic Data	Adam Van Etten	Using Agent-Based Simulation, Machine Learning, and Distributed Cloud Computing to test how massive, complex networks will react to novel scenarios	Aleshia Davis-Perkins	Neuromorphic Hardware Anisotropic Reservoir Trajectory Generation and execution with Robotic Arm	Roxana Leontie, Naval Research Laboratory
Synthetic Data Generation for UUV Reinforcement Learning	Casey Sapp	Random Forest based Raw Network Traffic Detection	Michael De Lucia	Adaptive spiking control of a 7 DOF arm	Travis DeWolf, Applied Brain Research
Evaluation of IR Imagery Generated by UnrealEngine for Algorithm Training	Kimberly Manser	Using Machine Learning to Enhance the Detection of Steganographic Malware	Sean Oesch	Stable Lifelong Learning: Spiking neurons as a solution to instability in plastic neural networks	Samuel Schmidgall, Naval Research Laboratory
12:15 Naval Applications	Amy Cheng, Naval Surface Warfare Center, Corona Division	Reinforcement Learning	Christopher Rosser, Naval Information Warfare Center Pacific	Real Time Machine Learning	Christal Gordon, DARPA
AI-Enabled Tactical Information Exploitation	Jeffrey Tweedale	Local Congestion Control in Underwater Acoustic Networks via Reinforcement Learning	Pedro Forero	Real Time Machine Learning: Automated Flows Enabling Concept to Chip	Serge Leef, DARPA
Markov Decision Process Design for Supervised Learning of Task Schedulers	Paul Rademacher	Improving Course-of-Action Analysis in Naval Wargames with Reinforcement Learning	William Leonard	Physically-aware Automated ML Hardware Generation using VeriGOOD-ML	Sachin Sapatnekar, University of Minnesota
Automating Safety of Navigation with Machine Learning Technologies	Michael Lenihan	Mixed Precision Reinforcement Learning for Control Simulation of Unmanned Undersea Vehicles	Christopher Hixenbaugh	Bridging Python to Silicon smartly: the SODA toolchain	Antonino Tumeo, Pacific Northwest National Laboratory
Machine Learning for Satellite Characterisation	Ryan Houghton	Robotic Swarm Pursuit-Evasion Capture Strategy using Deep Reinforcement Learning - An Update	Daniel Lofaro	Using Apache TVM for End-to-end HW/SW Co-design	Luis Ceze, University of Washington
A Machine Learning Framework for Maritime Systems Environment Applications	Christopher Hevey	Online Learning of the Secondary User Policy in a Cognitive Radio Network with Constraints on a Markov Primary User with Unknown Dynamics	Clement Kam		

NAML 2022 Poster Schedule

Last updated: 2/10/2022

Session 1A: Wednesday 3/23, 8:30 AM PT

CYEA745	Measuring the impact of a ransomware attack	Elie Alhajar, U.S. Military Academy
DACJ362	Naval Aviation Support Equipment Impact on Aircraft Readiness	Christopher Jaworowski, Naval Air Systems Command
AUSH401	Streamlining Software Acquisition Processes Through the Use of an Autonomy Framework Repository and Environment	Samuel Habbo-Gavin, Naval Air Warfare Center Aircraft Division
PRAR442	Rapid Exploitation of Human Language in a Low-Resource Environment	Alex Rojas, Serco North America Inc.
MLCJ551	Electromagnetics Aircraft Launch System (EMALS) Anomaly Detection	Christopher Jaworowski, Naval Air Systems Command
NANB585	Detection of Anomalous Merchant Vessel Trajectories	Nicola Bruno, VTG Defense
COAR226	Active Learning: Super Charge Data Labelling	Austin Ruth, Georgia Tech Research Institute
NABJ383	AI-Enabled Naval Tactical Kill Chain	Bonnie Johnson, Naval Postgraduate School
TEMK344	Closing Kill Chains by Combining MLOps and DevOps	Michael King, Red Hat
PRKF690	Machine Learning for Navy Financial De-obligations	Karen Frech, ASN FM&C FMDDT
PRBR377	Forecasting Support Equipment Inventory	Brian Ruderman, Naval Air Systems Command
MLJK556	Estimating Middle Tier Acquisition schedule risk	John Kamp, The George Washington University
NAAO415	AI Training framework for a medium fidelity environment.	Arturo Ortiz, NAVAIR
HUBJ910	Human-Machine Teaming, Trust, and Decision Risk for Future Artificial Intelligence-Enabled Tactical Decision Aids	Bonnie Johnson, Naval Postgraduate School
MLJG459	Human Activity Recognition and Identification	Justin Gamble, Naval Surface Warfare Center Dahlgren Division
CYMR513	Bolt-on ML/AI GPS Spoof Detection Capability	Michael Rodriguez, BlueRISC, Inc.

Session 1B: Wednesday 3/23, 1:15 PM PT

CYMA986	RECO-LSHFL: Reconfigurable LightweightSponge-Based Hash Functions Hardware Library	Mohamed Aly, California State Polytechnic University, Pomona
PRJW422	Visualizing the Digital Aviation Readiness Technology Engine (DARTE) with the Advana Platform	Jazlynn Wied, Jamal Rorie, and Gary Williams, Naval Information Warfare Center Pacific
MLRC424	EMBER-Boosted: Malicious Portable Executable File Detection	Roland Chin, Naval Surface Warfare Center, Corona Division
TEJS519	AI/ML Operational Efficiency, Agility and Density	Jon Scadden, LIQID
CODL650	AI application in Digital Twin	Donovan Lo, Booz Allen Hamilton Inc.
BIGC372	Predicting of Health Status from Wearable Physiological Monitoring Data project	Garrett Cookson, Naval Information Warfare Center Pacific
ALBN716	Deploying Meta-Models to Drive "Real-Time," On-Site Course-of-Action Recommendations	Bruce Nagy, Naval Air Warfare Center Weapons Division, China Lake
ALBN719	Semantic methods for activity ontology for testing AI and developing decision aids	Bruce Nagy, Naval Air Warfare Center Weapons Division, China Lake
PRJR693	Readiness Predictions for the MH-60 SeaHawk with the Digital Aviation Readiness Technology Engine	Jamal Rorie, Naval Information Warfare Center Pacific
PRAS482	Applications of Natural Language Processing to Predict Components of Naval Aviation Readiness	Andrew Sabater, Naval Information Warfare Center Pacific
PRAC628	Machine Learning to Predict and Monitor Trouble Ticket Duration	Arica Christensen, PMW 130
HUSD651	How Long, Jargon-filled Job Descriptions Affect Potential Candidate Interest Level	Sara Dooley, NSWC PHD
NAYZ140	Self-organizing and Load Balancing with Quantum Effect for Peer-to-Peer Collaborative Learning Agents and Flexible Command and Control and Organizational Structures	Ying Zhao, Naval Postgraduate School
TEJB886	Measuring and Exploiting Entropy Shifts in Time Series Ecosystems	John Bicknell, More Cowbell Unlimited, Inc.
NARM706	AI/ML in the Tactical Cloud for Forward Deployed Decision Support	Randy Maule, Naval Postgraduate School

Session 2A: Thursday 3/24, 8:30 AM PT

AUDP434	Stochastic Game with Multi-agents in a competitive-cooperative game theory environment with an altered reward structure.	Darleen Perez-Lavin, Naval Information Warfare Center Atlantic
AUPD828	Learning to Play Simulated War-Games using AI: A Case Study of Deep Reinforcement Learning for Hunting of the Plark Game	Prithviraj (Raj) Dasgupta, Naval Research Laboratory
ALRB228	Building AI Resiliency	Robert Bock, R-DEX Systems, Inc.
NAJW452	Bringing AI to the Edge with BEAST	John Wolohan, Booz Allen Hamilton
AUDA508	Mindful™ Software: Competency Aware Machine Learning	Dean Schifilliti and Michael Planer, BAE Systems FAST Labs
ALDC724	Deep Learning to Enhance Similarity Assessment for Case-based Reasoning	David Crandall, Indiana University
MLKR328	deepBioNet: Biologic Acoustic Transient Classifier	Kathleen Rice, Naval Undersea Warfare Center
MLGB292	Time-Domain Neural Network Detects Passing Dipole Targets Registered by a Magnetic Vector Gradiometer	Gregory Byrne, Leidos
PRTM313	Artificial Intelligence/Machine Learning Ontologies	Tim Miller, ProSync Technology Group
ALCR556	LDA investigation of Research Curves	Charles Rea, Naval Air Warfare Center Aircraft Division
MLAL623	Quantization-Aware Training and Pruning for Hardware-Efficient Neural Network Modulation Classification	Arthur Lobo, Naval Surface Warfare Center, Crane
ALCG535	Extracting Properties of Separators from Larger Scale Data using Topological Data Analysis Methods	Christopher Griffim, Penn State University

AUSS535	Evolutionary Self-Replication as a Mechanism for Producing Artificial Intelligence	Samuel Schmidgall, Naval Research Laboratory
MLSS536	A Comparison of Plasticity Rules in Spiking Neural Networks	Samuel Schmidgall, Naval Research Laboratory
ALMA765	Variational Perspective on Learning Rules for Networks with an Energy Function	Mario Ancona, Florida State University
ALUU875	Non-critical Marine Application of Collaborative Learning with Spiking Neural Networks	Uchechukwu Leo Udeji, University of Massachusetts Lowell
MLJS257	Robustness and Security for AI and the Dangerous Dismissal of Edge Cases	James Stewart, TrojAI Inc.

Session 2B: Thursday 3/24, 1:00 PM PT

MLRZ510	Modulation recognition on Intel's Loihi through ANN/SNN conversion	Riley Zeller-Townson, Naval Information Warfare Center Pacific
COMJ697	Active learning for maritime object detection in synthetic aperture radar imagery	Martin Jaszewski, Naval Information Warfare Center Pacific
MLJO644	Drift Improvement through Reinforcement Learning - INS (DIRT-I)	Jeffrey Onners, Naval Information Warfare Center Pacific
MLNB378	Machine learning applications for quick-reaction development of radar simulations with imperfect data	Nathan Blinn, Naval Air Warfare Center Weapons Division (NAWCWD) Point Mugu
NAJD709	Resource Optimization with Agent Reinforcement	Josh Duclos, Naval Information Warfare Center Pacific
COJR499	Synthetic Imagery Applications in Computer Vision	Jake Ramirez, Naval Information Warfare Center Pacific
ALJC691	DoD Applications of Novelty Accommodating Artificial Intelligence	James Chao, Naval Information Warfare Center Pacific
MLMA581	Machine Learning for Data Deconflation: Adopting GANs for Generalized Source Separation	Mohammad Alam, Naval Information Warfare Center Pacific
COAM509	Navigation in 3D point cloud environment via multi-agent reinforcement learning in a correspondence 2D floorplan.	Adrian Mai, Naval Information Warfare Center Pacific
ALJC548	Neural Net State Space Representation for Kalman Filters	Jodi Clark, Booz Allen Hamilton
MLJS367	Machine Learning and Radio Frequency Spectrum Management	Joshua Strubel, Naval Information Warfare Center Atlantic
COCM749	Baselining Few-Shot Object Detection on Maritime Data	Chelsea Mediavilla, Naval Information Warfare Center Pacific
MLAD557	Deployment considerations for EdgeAI Technology	Aleshia Davis-Perkins, Deloitte Consulting, LLP
BINR619	Preprocessing EEG data for downstream classification tasks	Nancy Ronquillo, Naval Information Warfare Center Pacific
AUDM358	Bandwidth constrained cooperative object detection in images	DIEGO MAREZ, Naval Information Warfare Center Pacific
MLPZ919	Active Queue Management in Underwater Network via Deep Reinforcement Learning	Peng Zhang, Naval Information Warfare Center Pacific
ALVN438	SeeByte ATR performance for detection and classification subsea objects in sonar and video	Vincente Nguyen, SeeByte Inc