2024 IEEE Workshop on **Uncertainty Visualization:** Applications, Techniques, Software, and Decision **Frameworks**

St. Pete Beach, Florida, USA 14 October 2024



IEEE Catalog Number: CFP242A6-POD ISBN:

979-8-3315-2761-7

Copyright © 2024 by the Institute of Electrical and Electronics Engineers, Inc. All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

*** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.

 IEEE Catalog Number:
 CFP242A6-POD

 ISBN (Print-On-Demand):
 979-8-3315-2761-7

 ISBN (Online):
 979-8-3315-2760-0

Additional Copies of This Publication Are Available From:

Curran Associates, Inc 57 Morehouse Lane Red Hook, NY 12571 USA Phone: (845) 758-0400

Fax: (845) 758-2633

E-mail: curran@proceedings.com Web: www.proceedings.com



2024 IEEE Workshop on Uncertainty Visualization: Applications, Techniques, Software, and Decision Frameworks UncertaintyVis 2024

Table of Contents

Paper Presentations

Exploring Uncertainty Visualization for Degenerate Tensors in 3D Symmetric Second-Order Fensor Field Ensembles	1
Uncertainty Visualization Challenges in Decision Systems with Ensemble Data & Surrogate Models	12
Voicing Uncertainty: How Speech, Text, and Visualizations Influence Decisions with Data Uncertainty	17
Effects of Forecast Number, Order, and Cost in Multiple Forecast Visualizations Laura Matzen (Sandia National Laboratories, USA), Mallory Stites (Sandia National Laboratories, USA), Kristin Divis (Sandia National Laboratories, USA), Alexander Bendeck (Georgia Institute of Technology, USA), John Stasko (Georgia Institute of Technology, USA), and Lace Padilla (Northeastern University)	28
Accelerated Depth Computation for Surface Boxplots with Deep Learning	38

FunM^2C: A Filter for Uncertainty Visualization of Multivariate Data on Multi-Core Devices
Lightning Talks
UADAPy: An Uncertainty-Aware Visualization and Analysis Toolbox Patrick Paetzold (University of Konstanz, Germany), David Hägele (Visualization Research Center, University of Stuttgart, Germany), Marina Evers (University of Stuttgart, Germany), Daniel Weiskopf (University of Stuttgart, Germany), and Oliver Deussen (University of Konstanz, Germany)
Estimation and Visualization of Isosurface Uncertainty from Linear and High-Order Interpolation Methods
Uncertainty-Informed Volume Visualization using Implicit Neural Representation
Glyph-Based Uncertainty Visualization and Analysis of Time-Varying Vector Field
An Entropy-Based Test and Development Framework for Uncertainty Modeling in Level-Set Visualizations
Visualizing Uncertainties in Ensemble Wildfire Forecast Simulations
Author Index