

Red Rock Data Science Conference

Monday, May 18, 2026 - Thursday, May 21, 2026

Atwood Innovation Plaza, 453 S 600 E, St. George, UT 84770



DAY 1: Monday May 18, 2026

REGISTRATION AND CHECK IN | 8:00 – 11:00 AM

Atwood Innovation Plaza, 453 S 600 E, St. George, UT 84770

*Parking permit required (distributed via email)

8:45-10:45am **Workshop 1: Introduction to R for Data Science – Caroline Hutchings, Norco College (Room AIP 164)**

BREAK | 10:45 – 11:00 AM

Scientific Session 1: AI for Security, Fraud Detection, and Education (AIP 164)

Moderator: **W. Evan Johnson, Red Rock Data Science**

11:00-11:15am Conference Welcome, Information, and Logistics – **Evan Johnson, Red Rock Data Science; Aaron Davis, Atwood Innovation Plaza, Utah Tech University**

11:15-11:30am RedactaRAG: Strengthening Policy-Based Security in LLM Interactions – **Timothy Hardy, Brigham Young University**

11:30-11:45am FraudHunter: A Novel Ethereum Fraud Detection Model Based on Transfer Learning and Incremental Learning – **Yongxi Sha, Utah State University**

11:45-12:00pm Lowering Barriers to Statistical Learning: Development and Evaluation of OpenStat – **Lillie Hutchings, Columbia University**

12:00-12:05pm Poster Lightning Talk : Utilizing Community Science Records to Identify Roadways of Concern for Utah’s Herpetofauna – **Gisela Benavides Canas, Utah Tech University; and Practice Problem Generation for Automated Decision-Based Assessment – Patrick Willmott, Brigham Young University**

LUNCH BREAK | 12:05 – 1:30 PM

Scientific Session 2: Foundations of Statistical and Machine Learning (AIP 164)

Moderator: **Jake Rhodes, Brigham Young University**

1:30-1:50 pm Visualizing noisy data by embedding functional Mahalanobis distances – **Kevin Moon, Utah State University**

1:50-2:10pm Extracting signal from noise: Simulation based inference of mechanistic models – **Jesse Wheeler, Utah State University**

2:10-2:30pm Machine Learning in Very Small Sample Sizes – **Alan Wisler, Utah State University**

2:30-2:50pm From Pixels to Presence: Custody Management via Event-Based Sensing and Activity Intelligence – **Mario Harper, Utah State University**

2:50-3:10 pm Mathematical Theory of Collinearity Effects on Machine Learning Variable Importance Measures – **Kelvyn Bladen, Utah State University**

3:10-3:15pm Poster Lightning Talks (2-3 minutes each): Crack Segmentation in Concrete Structures Using Neural Integral Equation-Inspired Nonlocal Operators – **Koras Koirala, Idaho State University; and Nonlocal operator learning for fMRI encoding and decoding tasks – Saugat Acharya, Idaho State University**

BREAK | 3:15 – 3:30 PM

Scientific Session 3: Bioinformatics, Genomics, and Health Data Science (AIP 164)

Moderator: **Stephen Piccolo, Brigham Young University**

3:30-3:45pm Conditioning GWAS to find protective genetic variants against psoriasis: an HLA story – **Matthew Bailey, Brigham Young University**

3:45-4:00pm A Machine Learning Approach to Prioritizing Secondary Mis-Match Repair Pathway Genes Missed by Current Lynch Syndrome Multi-Gene Sequencing Panels – **Dav Dorobantu, Utah Tech University**

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4:00-4:15pm	An approach to improving the accessibility of curated datasets from the public domain – Heidi Steadman, Brigham Young University
4:15-4:30pm	Impacts of batch effects on the performance of classifiers across multiple biological studies – Preston Raab, Brigham Young University
4:30-4:45pm	Deciphering Tumor Microenvironment Contributions to Breast Cancer Progression in Patient-Derived Xenografts – Ben Song, Brigham Young University
4:45-5:00pm	Differential Item Functioning and Harmonization of Cognitive Data Across 6 Longitudinal Cohort Studies in the United States – Sofia Maia, Brigham Young University
5:00-5:05pm	Poster Lightning Talks: Maptology: A Web-based tool that supports mapping tabular data to ontology terms – Gilyeon Hwang, Brigham Young University ; and Integrative analysis of transcriptomic activity within solid pseudopapillary epithelial neoplasms – Shu-Fei Lo, Brigham Young University

POSTER SESSIONS 1-3 (AIP 164) | 5:00-6:00 PM

DAY 2: Tuesday May 19, 2026

EXCURSION 1: SNOW CANYON | 8:00 – 12:00 PM

(Please bring water and hiking/walking shoes)

We'll be hiking in Snow Canyon, just outside St. George. We will meet at 8am at the Atwood Plaza or at 9am at the park. You'll have the opportunity to explore some of the park's exciting features—such as the sand dunes, lava caves, petrified dunes, or (if you are ambitious) Padre Canyon. For more information, please see the adventure guide: https://docs.google.com/document/d/1fNN7qvSv6gM9Hh1fnkplYoavHirEVGw/edit?usp=share_link&oid=113279493858858972292&rtpof=true&sd=true

REGISTRATION AND CHECK IN | 12:00 – 3:00 PM

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LUNCH BREAK | 12:00 – 1:30 PM

Scientific Session 4: Engineering, Environment, and Ecology (AIP 164)

Moderator: Brock Johnson, Utah State University

1:30-1:45pm	Machine Learning-Based Compressive Strength Prediction for Low-Carbon Concrete Using Precipitated Calcium Carbonate (PCC) from Sugar-Beet Processing as a Partial Cement Replacement – Pravesh Aryal, Idaho State University
1:45-2:00pm	Development of scalable ML infrastructure for a GPU accelerated Lagrangian Particle Tracking in Eulerian fluid flow – Sai Sowgandh Piriya, Utah State University
2:00-2:15pm	Leveraging Community Science to Evaluate Herpetological Species of Conservation Concern – Megen Kepas, Utah Tech University
2:15-2:30pm	Attitudinal and spatial drivers of policy targeting for nearshore management in Oregon: Integrating latent class choice models with two-dimensional spatial GAMs – Marcelo Pignatari, Utah State University
2:30-2:45pm	RADSuite: a Novel Tool for Improving Species-Level Identification in Microbiome Research – Myesha Gilliland and Rachel Christensen, Brigham Young University
2:45-3:05pm	Discovering Function Bases via Neural Network Decomposition – Jarrod Mau, Belhaven University

BREAK | 3:05 – 3:15 PM

3:15-5:15pm **Workshop 2: A Practical Introduction to Quarto, GitHub, and Personal Websites – Rick Brown, Southern Utah University (AIP 164)**

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DAY 3: Wednesday May 20, 2026

REGISTRATION AND CHECK IN | 8:00 – 10:30 AM

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Scientific Session 5: Applications in Industry and Entrepreneurship (Room AIP 161)

Moderator: W. Evan Johnson

8:15-8:30am	An Interactive Dashboard for Visualizing Awarded Contract Data in the Construction Industry – Mikhaela Lewis, Norco College
8:30-8:45am	Data-Driven Decision Making using Machine Learning Principles – Tommy Deth, Norco College
8:45-9:00am	Improving AI Agent Reliability Through Context Engineering – Konor Young, Currant.ai
9:00-9:15am	Beyond the Model: Productionizing Predictive Analytics at Scale – Mitch Roznik, Curative
9:15-9:30am	Plexus Library – Alyssa and Ryan Clark, Dusk, Inc

POSTER SESSION 4-5 (Room AIP 164) | 9:30-10:30 AM

LUNCH/EXCURSION PREPARATION | 10:30 – 12:00 PM

EXCURSION 2: SPRINGDALE & ZION NARROWS | 12:00 – 9:00 PM

(Please bring water and hiking/walking shoes)

We'll be traveling to the Springdale entrance of Zion National Park, just outside the stunning red cliffs of Zion. You'll have the opportunity to explore some of the park's iconic hikes—such as the Zion Narrows, Emerald Pools, and Weeping Rock—or take in the vibrant art galleries, unique shops, and local dining in Springdale. Dinner will be on your own. Please plan to meet at the designated drop-off location by 7:30 PM for the return trip to St. George, arriving around 9pm. For more information, please see more information at:

https://docs.google.com/document/d/1fNN7qvSv6gM9Hh1fnkpltYoavHirEVGw/edit?usp=share_link&oid=113279493858858972292&rtpof=true&sd=true

DAY 4: Thursday May 21, 2026

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Scientific Session 6: Deep Learning, Generalization, and Ensemble Learning (Room AIP 164)

Moderator: Kevin Johnston, Utah Tech University

9:00-9:15am	AeroSense: Machine Learning-Based Activity Recognition and Respiratory Monitoring for Endurance Sports – Bing Jiang, Utah Tech University
9:15-9:30am	Toward an Unbiased College Football Ranking: Detecting Conflicts of Interest in AP Voter Ballots – Brandon Johnson, Brigham Young University
9:30-9:45am	Developing a Pedestrian Demand Index (PDI) to Prioritize Active Transportation Infrastructure Development in St. George, Utah – Ren Quinn, Utah Tech University
9:45am-10:00pm	Generalizability of Diffusion Model – Jun Kim, Brigham Young University
10:00-10:15am	Distributional Saliency Maps for Evidential Deep Learning – Bracken Sant, Brigham Young University
10:15-10:30am	Local CorEX – Ridge Atwood and Cooper Maughan, Brigham Young University
10:30-10:45am	Recovering Linear Equivariations from Data – McKay Sullivan, Utah Tech University
10:45-11:00am	Benchmarking AutoML Performance on Limited Training Sets – Reagan Watrin, Utah State University

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POSTER SESSION 6 (Room AIP 161) | 11:00-12:00 PM

LUNCH BREAK | 12:00 – 1:30 PM

1:30-3:30pm

Workshop 3 (Room AIP 164): Applied Kernel Machine Learning, Evan Johnson, Red Rock Data Science