SILVER STATE-ISTICS

Nevada Chapter of American Statistical Association

Nevada
ASA

Dear Nevada ASA Members and Friends,

Read on for information on
what our Chapter has been up to and
what we are planning for the future.
Please keep an eye on our website
for more details on upcoming events.

https://community.amstat.org/nevadachapter/home

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✍ Fall Virtual Event ✍

Our **Annual Meeting** will take place on-line this Fall, as part of a virtual *State of Data Science* event on Saturday, October 3. There will be four invited speakers, a tutorial on data pipelines, and some contributed talks. Registration is via Eventbrite; if you haven't received the detailed announcement let us know.   ≥

Elections

Four positions are open for terms beginning January 1, 2021: President, Southern Vice President, Secretary, and Treasurer. Members should receive their ballots soon; results will be announced during the Annual Meeting. ∞

The President's Corner
Christopher Tong

Your chapter is excited to present a forthcoming fall event that continues the State of Data Science series begun last year, organized by Southern Vice President Shar Chaudhry. This year the event is combined with our annual meeting, which would have been in Las Vegas but for COVID-19. Our annual meeting this time occurs relatively early in the fall semester. We are currently gauging interest in the possibility of also holding a later fall virtual symposium, to accommodate student/faculty research that might reach maturity late in the semester, as well as possible overflow from the annual meeting's contributed session. An invited keynote speaker would also be included. Please let me know your thoughts about this possibility.   Σ

Elizabeth Harris

Elizabeth (Beth) Harris is taking over from Tia Price as lead of our K-12 Poster Competition. Beth began elementary teaching 10 years ago. Now in her third year, she is teaching the double accelerated program to 6th graders and Geometry Honors to 8th graders at Lied STEM Academy. In the evenings she also teaches math for Desert Rose's Adult Education program. This past Spring she was awarded the Heart of Education Award. Beth has participated in the NV-ASA Poster Competition for the past two years. Welcome! ≤

A Follow-up on
Coronavirus Modeling

During our Virtual Spring Symposium Brian Labus, of the UNLV School of Public Health and a member of Gov Sisolak's scientific advisory panel on Covid-19, gave us a presentation titled "When Bad Models Happen to Good People: Making Sense of the Coronavirus Numbers". He showed us several published models. All models are in evolution, of course, as understanding of the functioning of the virus and available data increase.

As a follow-up, you may be interested in viewing the discussion *Taking on Covid-19 With Math and Stats*, by UNR Prof of Math and Stats Paul Hurtado and NV State Biostatistican (and UNR alumna) Kyra Morgan. Their discussion is available at https://www.unr.edu/nevada-today/news/2020/math-stats-covid. **λ**
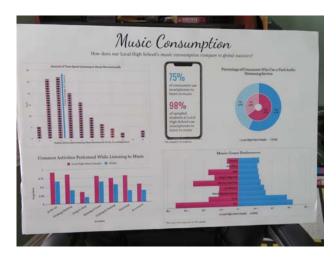
UNR News

Mihye Ahn, formerly a member of the NV-ASA Executive Committee, is now Statistics Graduate Program Director and Chair of Statistics Graduate Studies Committee at UNR. **Φ**

UNLV News

Chad Cross, formerly a member of the NV-ASA Executive Committee, is now a Visiting Associate Professor in the Department of Environmental and Occupational Health.

The Epidemiology and Biostatistics (EAB) program has now formally become a Department at UNLV. The Department Chair is Sheniz Moonie. **δ**

Poster Competition 2020

The poster *Music Consumption* by Sarah Crockett, Sheldon Skoboloff, and RaeAnne Zobel (12th grade, Coronado High School, Las Vegas, advisor Amy Leonard), which was our first place winner in the 10-12 group, has received honorable mention at the national ASA Data Visualization Poster Competition. Congratulations to all involved!

ASA Giving Day

October 2, 2020 is "ASA Giving Day." Members can support the fields of statistics and data science with financial contributions, volunteering, or sharing a message of hope and encouragement. In 2019, approximately $80,000 were raised. The link to donate is www.amstat.org/givingday. **$$**

Thoughts on Statistical Prediction
Chris Tong

TWELVE REASONS NOT TO TRUST THE OUTPUT OF A PREDICTIVE ALGORITHM OR STATISTICAL MODEL

"Garbage in, garbage out" is an unhelpful truism unless we learn how to recognize various types of "garbage in". This list below has intentional redundancies, for emphasis, though I make no claim of completeness. It is divided into data issues and modeling issues, being the two principal types of inputs to a predictive modeling exercise. A prerequisite to the discussion is that a clear purpose for the exercise needs to be understood *a priori*.

Data issues:
1. Your dataset was generated in a biased or misleading way (perhaps intentionally).
2. Your dataset contains errors and inconsistencies that have not been repaired.
3. Data from outside your sample are unlike data in your sample.
4. Data from the future are unlike data from the past.
5. Key data are missing due to informative reasons, not at random.
6. There are important predictor variables for which you don't have any data. (You may not even know that these variables exist!)

Modeling issues:

7. Your data have structure that is ignored by the model/algorithm.

8. Your model/algorithm's assumptions have more influence on the output than the data used to fit it.

9. Your model/algorithm is overfitted to your training dataset and will fail to generalize.

10. You made no attempt to validate the patterns you found by seeing if they reproduce in new datasets.

11. Your reported uncertainty metrics fail to account for the uncertainty about whether you have an appropriate model/algorithm.

12. Your model/algorithm provides a superb and predictive empirical "fit" to the data, but a qualitative interpretation of its form is misleading (eg, collinearity resulted in less insightful variables being included at the expense of more insightful ones, without harming predictive performance).

Critiques and comments are welcome!

Joining NV-ASA!

Only a minority of the people who receive this newsletter are members of the Nevada Chapter of the American Statistical Association (NV-ASA). Dues are nominal. For full-time students at NV institutions, the cost is $10 per year ($2 for student members of the national ASA). Otherwise, it is $20 per year ($10 for members of the national ASA). One can become a Life Member for $100. You can join NV-ASA when you renew your national ASA membership (or join for the first time); this can be done on-line at **www.amstat.org/chapters**.

Otherwise, whether a national ASA member or not, you can join through PayPal on our website or by contacting our Treasurer Alejandra Livingston. Any way you do it, please obtain an information form from our website, complete it, and send it to Alejandra at the address listed on the form.

Why should you join? NV-ASA events provide opportunities for networking and contact with other statisticians working in a wide variety of areas in Nevada. But in addition to that, a major reason is that your dues help support the outreach activities of the NV-ASA including the K-12 Poster Competition and Career Days. Our financial needs are not great, so long as we all pitch in our modest amounts.

NV-ASA Officers & Others

Voting officers are

President:	Christopher Tong (2020)
Past President:	Alicia Chancellor Hansen (2020-2021)
Northern Vice President:	Glenn Waddell (2020-2021)
Southern Vice President:	Sharang Chaudhry (2019-2020)
Secretary:	Charles Davis (2020)
Treasurer:	Alejandra Livingston (2019-2020)
Chapter Representative:	Gayle Allenback (2020-2022)

Also involved are

Webmaster:	Alicia Chancellor Hansen
Poster Competition Lead:	Elizabeth Harris
Newsletter Editor:	Charles Davis

For contact information, go to
https://community.amstat.org/nevadachapter/home
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