

Lillian Kay Petersen

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EDUCATION

LOS ALAMOS HIGH SCHOOL

Los Alamos, New Mexico
JUNIOR
Cum. Unweighted GPA: 4.0

SKILLS

PROGRAMMING

Python • \LaTeX • Github
Unix • vim
Google cloud computing

LANGUAGE

German (AP class + immersion)

COMMUNITY

SCIENCE OUTREACH

Speaker for 6th grade classes,
at environmental center,
and other community
organizations.

Elementary science fair judge.
Peer review scientific papers.

YOUTH

Violin teacher for children
Extensive work with foster
and adopted children

INTERESTS

MUSIC

Violin • Bavarian zither
Orchestra

SPORTS

Cross Country • Track
Skiing • Racquetball

CLUBS

Eco Club • NHS
Mu Alpha Theta

EXPERIENCE

IIASA | INTERNSHIP: ESTIMATING POVERTY IN AFRICA WITH MACHINE LEARNING
Summer 2018 | Vienna, Austria

DESCARTES LABS | MENTORSHIP IN REMOTE SENSING AND DATA ANALYSIS
2017 | Los Alamos, NM

JAHN RESEARCH GROUP | GROUP MEMBER: [LINK](#)
UW-Madison

RESEARCH

PREDICTING FOOD SHORTAGES IN AFRICA FROM SATELLITE IMAGERY 2017 – 2018

Created an early warning system to predict crop yields in every country in Africa
3–4 months before the harvest using satellite imagery.
Intel International Science and Engineering Fair (ISEF) 1st Place in category
National Junior Science and Humanities Symposium (JSHS) 1st Place in category

AMERICA'S FARMING FUTURE: THE IMPACT OF CLIMATE CHANGE ON CROP YIELDS 2016 – 2017

Predicted crop yields to 2100 for every US county for three crops and two future climate
scenarios, based on historical relationships between yields and heat extremes.
Intel ISEF 3rd Place in category
National JSHS finalist

DETECTING CLIMATE CHANGE THROUGH MEANS AND EXTREMES 2015 – 2016

Detected how the climate is changing in temp. and precip. means and extremes since 1950
for every weather station in the world, shown on an interactive map: ([link](#)).

WILL IT BE A GOOD SKI SEASON? CORRELATIONS BETWEEN EL NINO AND SNOWFALL 2014 – 2015

Analyzed correlations between historical El Nino indices and winter weather across the
U.S. since 1950 to predict the following winter's weather.

PUBLICATIONS

Petersen, L.K. Real-Time Prediction of Crop Yields From MODIS Relative Vegetation
Health: A Continent-Wide Analysis of Africa. Remote Sensing. 2018, 10, 1726.

Petersen, L.K. Impact of Climate Change on Twenty-First Century Crop Yields in the U.S.
Climate. 2019, 10, 1726.

Petersen, L.K. Detecting Climate Change through Means and Extremes. New Mexico
Academy of Science. 2016, 50, 26–46.

Petersen, L.K. Will it be a Good Ski Season? Correlation between El Nino and U.S. Weather.
New Mexico Academy of Science. 2015, 49, 103–118.

INVITED TALKS

AGU | Invited Oral Presenter | Washington DC, December 2018

FEWS NET | Hour Seminar | Washington DC, December 2018

USAID | Hour Seminar | Washington DC, November 2018

Geo4Dev | Oral Presenter | San Francisco, November 2018

CGIAR Big Data Convention | Oral Presenter | Nairobi, Kenya, October 2018

Burney Research Group | Hour Seminar | UCSD, August 2018

USDA NASS | Hour Seminar | Washington DC, May 2018

IFPRI | Brown Bag Seminar | Washington DC, May 2018

GEOGLAM | Hour Seminar | UMD, May 2018