

Solving Problems with Data Science at Virginia Tech

Summer REU 2022

Data Sciences Project:

Epidemic Surveillance and Prediction for Respiratory Diseases and Harmful Algal Blooms Toxins (Ross Lab)

Project Description:

We need a highly deployable, cost-effective approach for monitoring respiratory illness that could be used for public health epidemic forecasting of respiratory diseases, such as COVID-19, flu, or the next pandemic, as well as forecasting respiratory irritation due to exposure of airborne toxins from harmful algal blooms. Students will develop sensor packages, identify public domain data sources, and code computational models which could have immediate impact on the lives of millions.

Expected Qualifications of Students:

Students from STEM majors expected; familiarity with instrumentation, web development, or mathematical modeling is a plus.

Faculty Bio:

Dr. Shane Ross is a professor at Virginia Tech in Aerospace and Ocean Engineering. He has a B.S. in physics and a Ph.D. in applied mathematics (control and dynamical systems), both from the California Institute of Technology (Caltech). Working with students is his favorite part of the job. He's also worked at the University of Southern California, NASA/JPL, and Boeing.

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