

Karen Yu

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EXPERIENCE

TiVo

Data Scientist
June 2017 - Present

- Analyzed large television viewership datasets to aid business decisions.
- Quantified uncertainties in audience predictions using Bayesian inference. Worked with software engineers to productionalize code and delivered results to client as confidence scores in product UI.
- Designed and prototyped report to provide benchmarking statistics on audience retention in programs and commercial pods.

Harvard University

Graduate researcher in
Atmospheric Chemistry Modeling
Group
Sep. 2012 - May 2017

- Developed high-resolution regional modeling capability in GEOS-Chem Model to support NASA field mission in collaboration with 100+ scientists. GEOS-Chem is an open-source atmospheric chemical transport model (CTM) used by 70+ research groups worldwide.
- Evaluated high-resolution model against aircraft observations of trace chemical species in the Southeast US. Presented work at American Geophysical Union conference and published work in peer-reviewed journal.
- Quantified errors in CTM due to using archived meteorological fields by comparing against coupled chemistry-climate model. Developed parameterizations to address transport errors in CTMs. Published work in peer-reviewed journal.
- Built interactive web application that allows users to examine impact of land-use policy on fires in Southeast Asia, along with the resulting air quality and public health implications.
- Managed class of 40+ students and provided one-on-one mentoring for students' final projects.

Teaching Fellow for Mathematical
Modeling
Sep. - Dec. 2013

EDUCATION

Harvard University

Ph.D., Engineering Sciences: Environmental Science &
Engineering, Nov. 2017
Secondary Field in Computational Science & Engineering

M.S., Applied Mathematics (3.8/4.0), May 2017
Coursework in machine learning, Bayesian inference

Carnegie Mellon University

M.S., Civil & Environmental Engineering (3.5/4.0), May 2012
B.S., Civil Engineering (3.9/4.0), Dec. 2012
Double major in Policy & Management

SKILLS

Experienced in building both statistical models as well as physics-based numerical models.

Tools used: numpy, scipy, pandas, scikit-learn, SQL, R, MATLAB, Apache Spark, IDL.

Programming languages

Python (competent), FORTRAN (competent), Java (some experience).

Human languages

Fluent in spoken Mandarin Chinese, basic proficiency in French.