

# Andy Eschbacher

data scientist

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## WORK

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- SEPT 2014 — PRESENT Senior Data Scientist at [CARTO](#)
- Solves novel spatial data science problems based on client needs and company strategy with special focus on geostatistics, optimization, and machine learning applications
  - Creator of [CARTOframes](#), a Python data science package for interacting with CARTO in data science workflows that is now a company product
  - Develops custom analyses for [CARTO's code base](#) that rely heavily on open source software
  - [Writes](#) and [talks](#) about the work we do on the data science team at CARTO
- AUG 2012 — AUG 2014 Physics Educator at WASHINGTON-LEE HIGH SCHOOL  
*Arlington Public Schools*, Arlington, Virginia
- Taught concept-based, general, and mathematically advanced physics courses at a progressive and diverse high school
  - Emphasized open source education and programming through [class GitHub pages](#)
- JAN 2012 — AUG 2012 Physics Educator at FALLS CHURCH HIGH SCHOOL  
*Falls Church Public Schools*, Falls Church, Virginia
- Physics instructor for the first physics class students take, connected to the 8th grade state standardized physics test. My students had a 100% pass rate.

## EDUCATION

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- AUG 2006 — JUN 2009 **Master of Arts in Physics**, The University of Texas at Austin, Austin, Texas  
Thesis: [“Quantifying stickiness in 2D Hamiltonian Maps”](#)  
Advisor: Prof. Philip J. Morrisson
- AUG 2004 — JUN 2006 **MPhys**, The University of Edinburgh, Edinburgh, Scotland  
Thesis: “Vacuum Polarization and the Structure of Renormalization”  
Advisor: Prof. Arjun Berera
- AUG 2001 — AUG 2004 **Bachelor of Science (transferred)**, University of Missouri, Columbia, Missouri  
Major in physics and mathematics; minor focus in violin performance and music theory

## SKILLS

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Programming languages	PYTHON, SQL (PostgreSQL, Big Query), JAVASCRIPT, HTML, C++, $\text{\LaTeX}$
Python for data analysis	PANDAS, PYSPARK, SCIPY, NUMPY, CVXOPT, CARTOFRAMES, PYMC3, SCIKIT LEARN, PYSAL, NETWORKX
General Python	FLASK, Jupyter, SEABORN/MATPLOTLIB, DASK
Spatial tools	POSTGIS, CARTO, GEOPANDAS, SHAPELY, LEAFLET.JS, etc.
Other things	DOCKER, GIT, REACT, GOOGLE CLOUD PLATFORM, AWS