My Internship at Joey James Law Firm

Alabama Data Scholars Program

By: Anna Pickle

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Thank you!



About Me

quanthub

- Rising junior at the ASCTE in Huntsville, Alabama
- I love data science, figure skating, and building legos
- I plan to major in Data Science in the future
- Data Scholar Intern at QuantHub in Birmingham
- Mentored by Cole - thank you!

Project Overview

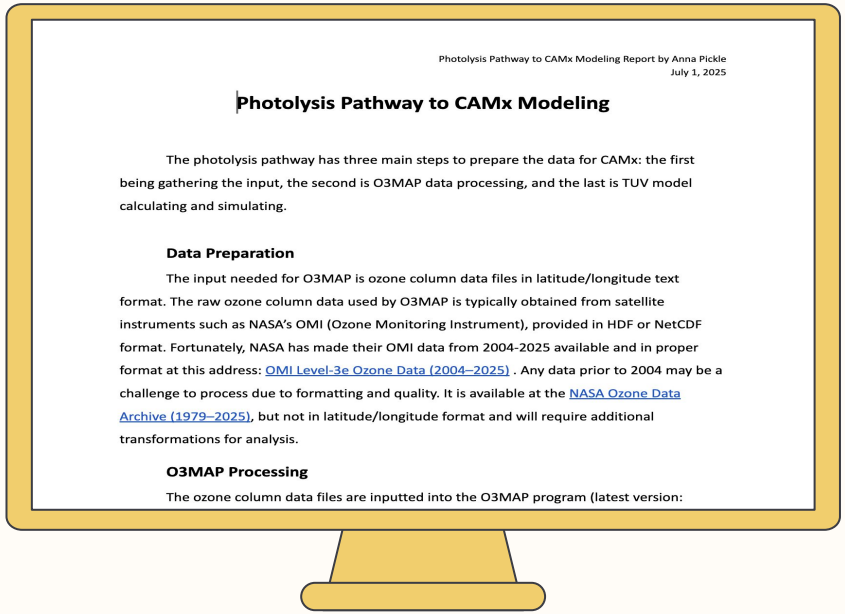
Joey James Law Firm is a law firm committed to representing individuals across the country in Toxic Torts and Environmental Law.

I worked with Joey James Law Firm on the assessment of data processing methods and application of those methods.

Specifically I worked on figuring out how to get data ready for a specific model called CAMx (Comprehensive Air Quality Model with Extensions). The goal was to use CAMx to model our opponent's emissions of atmospheric mercury.

I wrote multiple research reports on different types of pathways for different types of data.

My first time reading a full legal complaint.



Photolysis Pathway to CAMx Modeling Report by Anna Pickle
July 1, 2025

Photolysis Pathway to CAMx Modeling

The photolysis pathway has three main steps to prepare the data for CAMx: the first being gathering the input, the second is O3MAP data processing, and the last is TUV model calculating and simulating.

Data Preparation

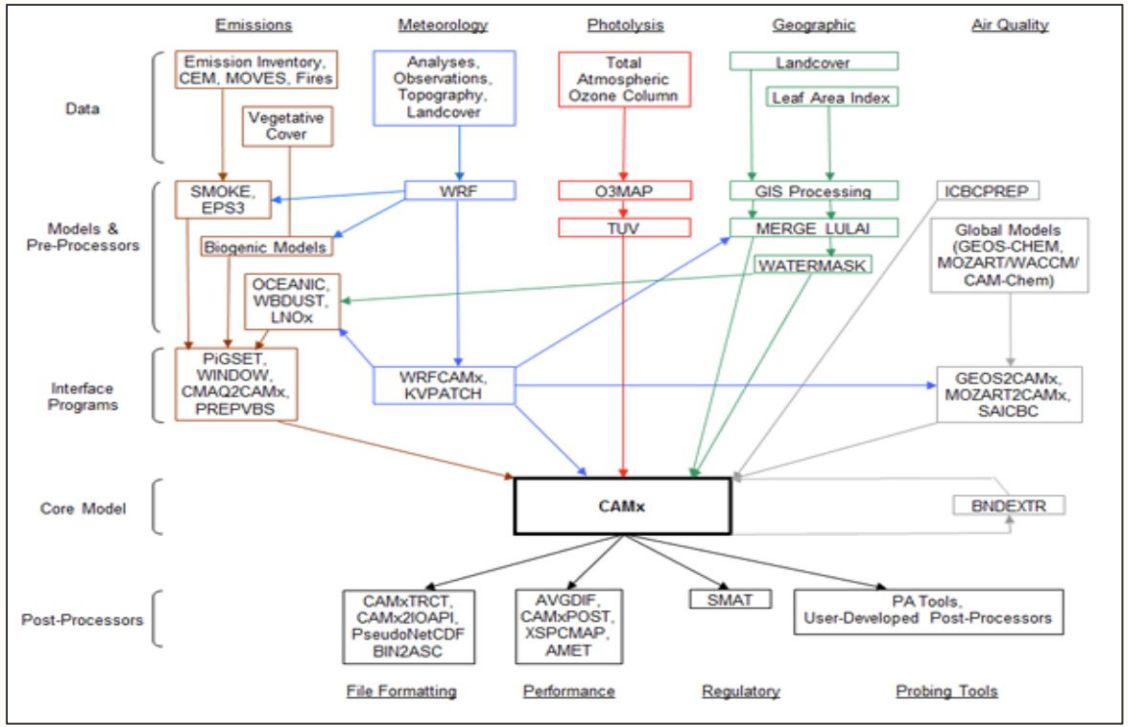
The input needed for O3MAP is ozone column data files in latitude/longitude text format. The raw ozone column data used by O3MAP is typically obtained from satellite instruments such as NASA's OMI (Ozone Monitoring Instrument), provided in HDF or NetCDF format. Fortunately, NASA has made their OMI data from 2004-2025 available and in proper format at this address: OMI Level-3e Ozone Data (2004–2025) . Any data prior to 2004 may be a challenge to process due to formatting and quality. It is available at the NASA Ozone Data Archive (1979–2025), but not in latitude/longitude format and will require additional transformations for analysis.

O3MAP Processing

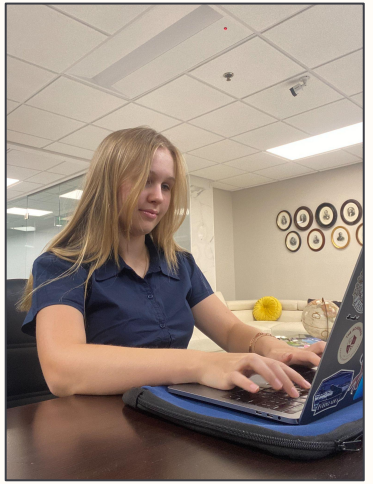
The ozone column data files are inputted into the O3MAP program (latest version:

JoeyJamesLaw.com
Where Science Helps To Find Justice

Project Overview Visuals



I'm the company's first high school employee.



Lessons Learned

Research Skills

I learned how to research pathways in-depth.

Drafting Reports

I learned how to create well detailed and professional reports.

Modeling

I learned how to prepare large sets of different kinds of data for CAMx.

Time Management

I learned how to manage my time so I could enjoy my summer and work.

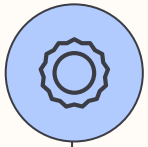
Adaptability

I learned how to throw myself into a new environment and thrive.

Communication

I learned how to communicate with my team and mentor.

Looking Ahead



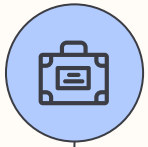
High School

Continue working on my data science skills. QuantHub has really improved my skills.



College

I plan to major in data science in college. Continue learning and creating projects.



Career

I want to pursue a career as a data scientist.

This internship has really solidified my desire to work in data science.

Thank You!

Thank you data scholar's for this connecting me with this internship, and thank you to Joey James Law Firm for taking me on.

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