# Yifan Ding

▪ yding054@ucr.edu ▪ (951) 333-0072 ▪ Riverside, CA ▪ https://yding054.github.io/


## PROFESSIONAL SUMMARY

More than 4 years of research experience in micrometeorology, satellite data analysis, field study planning, and dispersion modeling. Experience in leading air pollution projects and collaborating with colleagues. Great writing and speaking skills resulting in 4 peer-reviewed publications and 2 oral presentations on conferences.

## EDUCATION

University of California, Riverside; GPA: 3.66 — Riverside, CA, US
**Doctor of Philosophy, Mechanical Engineering** — Sep. 2018 – Dec. 2023

Huazhong University of Science and Technology; GPA: 3.67 — Wuhan, China
**Bachelor of Engineering, Environmental Science and Engineering** — Sep. 2014 – Jun. 2018

## SKILLS

**Instrument:** 2D and 3D sonic anemometers, Picarro, EM27/SUN, gas chromatographs, PurpleAir, E-BAM, ES-642, PEAQS, DustTrak, Model 405 nm

**Software:** MATLAB, Python, RStudio, AERMOD, ArcGIS, WindTrak, Fortran, Solidworks, AutoCAD

**Language:** English, and Chinese (mandarin)

## RESEARCH EXPERIENCE

Caltrans Dust Project, Riverside CA — Jan. 2022 - Present
**Team Lead**
▪ Lead and manage a team of 2 graduate students and 5 undergraduate students to develop an experimental study plan under the supervision of 3 Principal Investigators
▪ Design a mobile dust collection system and sieve dust collected from different roads
▪ Set up portable and federal equivalent method particulate matter (PM) monitors and a sonic anemometer for multiple field studies
▪ Analyze the wind and PM dataset for deploying AP-42 and dispersion models to estimate dust emission factors on the road

Caltrans Barrier Project, Riverside CA — Jun. 2019 - Aug. 2022
**Laboratory Lead**
▪ Set up 6 sonic anemometers to monitor the noise barrier impact on the meteorology
▪ Managed and trained undergraduate students to use gas chromatographs for bag samplers gas analysis
▪ Evaluated the RLINE source algorithm in AERMOD View driven by the in-situ meteorology to predict $SF_6$ tracer gas concentrations released from the moving vehicles on the freeway
▪ Wrote the section of meteorology analysis in the Caltrans governmental report

Meteorology Project, Riverside CA — Jun. 2019 - Jun. 2022
**Graduate Research Assistant**
▪ Used 2D wind and temperature data observed from low-cost sensors to infer the 3D micrometeorological parameters for dispersion model use

CALTEEH Vehicle Project, Riverside CA Sep. 2021 – Dec. 2021

**Graduate Research Assistant**

- Set up a sonic anemometer and conducted turbulent and micrometeorological analysis
- Built a dispersion model to predict the tracer gas $CO_2$ concentrations from idling vehicle exhaust pipe
- Made a presentation to CARB research division for applying the funding

UCOP Methane Project, Visalia CA Mar. 2019 - Feb. 2020

**Graduate Research Assistant**

- Set up 2 sonic anemometers on a 10 m trailer tower and used the situ data to validate the micrometeorology data obtained from HRRR wind model
- Operated a EM27/SUN spectrometer to measure column-averaged methane mixing ratio in field studies
- Retrieved and analyzed satellite-based methane mixing ratio from TROPOMI over a period of 18 months
- Developed a dispersion model with realistic geometry input for column observations and set up inventories of dairy-based methane emissions

NASA Wildfires Project, San Francisco CA Sep. 2018 – Jul. 2021

**Graduate Research Assistant**

- Retrieved aerosol optical depth satellite data from MODIS during the Northern CA wildfires seasons
- Compared the satellite data with SCAQMD ground $PM_{2.5}$ measurements to develop an aerosol optical depth regression model to predict $PM_{2.5}$ concentrations during fires
- Used HRRR wind model to compute forward and backward trajectories for developing a Gaussian plume model and a Lagrangian transport model to predict $PM_{2.5}$ concentrations during fires

# LICENSE

Unmanned Aerial System Remote Pilot (4496285) Issued on Mar. 2021
Issued by Federal Aviation Administration

Class C Driver's License (Y8501446) Expire on Nov. 2025
Issued by Department of Motor Vehicles