

# Xiangling Chen

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## EDUCATION

University of North Carolina at Chapel Hill | GPA: 3.975

2023 – 2027

- Double major in **Environmental Science | Information Science**; Minor in **GIS**
- Buckley Public Service Program| Blue Residence Hall Program

## SKILLS and INTERESTS

- Language: Chinese | English
- Skills:
  - ◆ GIS Programming: R Language(tidyverse, ggplot, sf,tmap, tidycensus, sfdep), Python
  - ◆ Visualization: Tableau, Canva, Adobe Premier
  - ◆ Data Analysis: Data wrangling, spatial statistic, descriptive statistics
  - ◆ API Data Extraction: ACS API, GeoJSON, OpenstreetMap API

## RESEARCH EXPERIENCE

**GEOG 215 Projects**

Chapel Hill, NC

August 2024 – Present

Researcher; Student

- Extracted GeoJSON data from NC One Map, cleaned and manipulated it using R (tidyverse, ggplot, sf, tmap) to analyze trends in student performance between Orange and Durham Counties. Visualized findings through thematic maps, scatter plots and box plots
- Performed exploratory data analysis (EDA) in R on NC county population and demographic trends, applied spatial statistics techniques such as CRS re-projection, sfdep library, mean center, standard deviational, circle, spatial autocorrelation, and hotspot analysis to uncover spatial patterns
- Used the ACS 5 API to download and process NC income data, integrated it with spatial data to assess the relationship between income levels and hurricane risk, and performed EDA, and hotspot analysis to identify regions of high risk and vulnerability

**CNML Lab**

Chapel Hill, NC

November 2023 – Present

Research Assistant

- Recruited participants, presenting complex procedures in an easy-to-understand manner to ensure they were well-informed and engaged successfully collecting data from 40 participants
- Participated in weekly and monthly RA meetings, reviewing 15 cognitive memory literatures, addressing questions, and engaging in discussions on graduate students' experimental data and results

**“Linear and non-linear summation of responses to visual and olfactory cues in male *Drosophila Melanogaster”***

Shude High School, China

2020 - 2023

Co-First Author; Group Leader

<https://doi.org/10.59720/22-063>

- Investigated the integration pattern of visual and olfactory cues in *Drosophila*, collaborated with researchers to analyze and interpret data, applying statistical methods in R including ANOVA and t-tests to assess experimental outcomes and validate hypotheses
- Cultured *Drosophila*; designed, and executed phototaxis and chemotaxis behavioral experiments, authored the summary and discussion sections of the published paper, synthesizing experimental findings with relevant literature to highlight novel insights into sensory integration
- Developed experiment agenda, managed a chemical odorants budget of 1400RMB and procured the biochemical materials

## RELATED EXPERIENCE

**2024 Carolina Data Challenge**

Chapel Hill, NC

October 2024 (70hrs)

Core-member | <https://devpost.com/software/co2-emission>

- Investigated CO<sub>2</sub> emissions from various flight categories and travel routes to address the question:

*“Which countries have the highest rates of plane travel, and how does this correlate with geographic and economic factors?”*

- Cleaned and analyzed travel data using Excel and R, calculating average annual CO<sub>2</sub> emissions from passenger flights. Visualized findings in Tableau by creating global heat maps, a bubble chart, and a bar chart to identify the top 5 countries with the highest CO<sub>2</sub> emissions.
- Conducted a literature review to contextualize findings, incorporating geographic and economic perspectives to explain observed patterns, designed a PowerPoint presentation to illustrate the CO<sub>2</sub> emission current situation and eco-friendly suggestions.

#### **HackNC 2023**

Chapel Hill, NC

October 2023 (70hrs)

Group leader | <https://devpost.com/software/the-presidents-game#updates>

- Developed core logic for a group game, integrating research on 50 U.S. presidents' events as hints; created 'Presidents' Game' using Visual Studio and Python, simplifying concepts for children to learn; using Adobe Premier produced video demo to explain the game

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#### **INTERNSHIP EXPERIENCE**

##### **Ginkgo Space Health Management Company** Chengdu, China

July 2024 – August 2024

Communication and Marketing assistant

- Researched sarcopenia pathology and prevention strategies for the elderly, drafting a tailored community intervention plan for Chengdu based on a successful Shanghai model
- Investigated community-based intervention policies and created a product introduction presentation for local stakeholders, integrating Ginkgo Space's health products
- Developed two educational posters on sarcopenia prevention and assisted in delivering product presentations to community managers to enhance local engagement
- Independently sourced and edited 30 exercise prevention videos, contributing to a series promoting healthy lifestyles among the elderly

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#### **LEADERSHIP/ RELATED EXPERIENCE**

##### **Badminton Club**

Chapel Hill, NC

February 2024 - Present

Internal coordination Leader

- Planned and organized team practices and training sessions, collaborating to analyze competition strategies
- Managed on-campus membership and coordinated scrimmages with Duke University, including creating promotional posters and participant information forms. Analyzed performance data, scheduled matches, and matched team members based on skill levels