Sophia Thompson

Irvine, CA | sthom954@gmail.com
LinkedIn: sm-thompson | GitHub: smthom1

SUMMARY

Master of Data Science student with a strong foundation in **data analytics, machine learning, and software development**. Experienced in applying computational tools to **environmental, social, and healthcare challenges**, bridging technical innovation with human-centered understanding. Passionate about leveraging **data-driven insights for sustainable, equitable, and impactful solutions**.

EDUCATION

University of California, Irvine — Irvine, CA | *(expected) Dec 2026*
Master of Data Science

University of California, Davis — Davis, CA | *June 2025*
B.S. in Computer Science
Minors: Sociology, Environmental Horticulture & Urban Forestry

SKILLS

Programming: Python, SQL, Java, JavaScript, C, C++, R, LaTeX
Data Science: Machine Learning, AI, Statistics, Data Visualization, Predictive Modeling
Tools & Databases: MySQL, MongoDB, Firebase, PostgreSQL, Streamlit, Git, JSON, Figma
Concepts: Environmental Informatics, Sustainable Systems, Agent-Based Modeling, Human-Computer Interaction

PROFESSIONAL EXPERIENCE

Undergraduate Research Assistant – *Urban Science Lab, UC Davis* Davis, CA | Jan 2025 – July 2025

- Collaborated with the **Foundation for Food and Agriculture Research (FFAR)** to build the **Edible Trees Database**, improving access to agroforestry resources.
- Developed maintenance programs using **Python, R, and SQL** to increase data reliability and scalability.
- **Outcome:** Streamlined data workflows, enhancing accessibility for urban forestry researchers.

Data Analyst Intern – *EcoTelesis* Agoura Hills, CA (remote) | Oct 2024 – Mar 2025

- Analyzed **solid waste and greenhouse gas emissions** data for Los Angeles County, contributing to sustainability efforts.
- Applied **data mining and statistical analysis** to evaluate recycling efficiencies and waste recovery initiatives.
- **Outcome:** Delivered actionable insights supporting county-wide sustainability policies.

Undergraduate Research Assistant – *Tree Systems Lab, UC Davis* Davis, CA | Mar 2024 – Sept 2024

- Conducted research in **plant physiology and agro-ecological systems** using Python and R.
- Led development of **machine learning tools** for pistachio image recognition with CVAT and YOLO.
- **Outcome:** Improved agricultural precision and reduced data processing time.

PROJECTS

Health & Accessibility Platforms – *HackDavis*

Hackathon Wins: Best Medical Hack (HAPPI, 2025) & Best Use of MongoDB (IntelliConverse, 2023)

- **HAPPI:** Developed a digital platform to assist Alzheimer's and dementia patients through digitized **SAGE cognitive exams**, using **Streamlit, Firebase, MongoDB Atlas**, and the **Google Gemini API** for personalized cognitive and mobility activity recommendations.
- **IntelliConverse:** Built an accessibility-focused **learning assistance app** with **React, Next.js, Azure Speech, Milvus, and MongoDB**, improving document comprehension for individuals with learning differences.
- **Impact:** Recognized for innovation, inclusivity, and technical execution in healthcare and accessibility-focused hackathons.

Pistachio Image Recognition *Tree Systems Lab, UC Davis* | Apr 2024 – Sept 2024

- Built **Python-based machine learning models** for automated pistachio classification and sorting.
- Designed image processing filters for background removal and improved detection accuracy.
- **Result:** Reduced sorting errors and material waste, improving agricultural efficiency.

Edible Trees Database *Urban Science Lab, UC Davis* | Jan 2025 – July 2025

- Designed a **PostgreSQL/PostGIS database** cataloging edible urban tree species.
- Integrated **Leaflet and Java visualizations** for proof-of-concept web design.
- **Result:** Created scalable infrastructure for public urban forestry data access.

Agent-Based Model of Infection Dynamics *UC Davis (PSC 120)* | Sept 2024 – Dec 2024

- Built a **Java-based MASONplus9 simulation** to model SIR-based disease spread dynamics.
- Created interactive GUI for variable adjustment and visualization.
- **Insight:** Supported analysis of epidemic behavior and public health response modeling.