Sarah Wood

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EDUCATION

University of Minnesota **Minneapolis, MN**

B.A. Computer Science | B.A. Global Studies | Minor in Spanish – Expected May 2027 ***GPA: 4.00***

- **Relevant Coursework:** Advanced Programming Principles, Algorithms & Data Structures, Discrete Structures, Machine Architecture & Organization, Quantitative Political Analysis
- **Awards/Honors:** Undergraduate Research Opportunities Program (UROP) Recipient, Dean's List (2023-2025), Nebraska Seal of Biliteracy, U.S Presidential Scholar, University Honors Program

EXPERIENCE

University of Minnesota Knowledge Computing Lab **Minneapolis, MN**

Undergraduate Researcher *February 2025 - Present*

- Developed and fine-tuned Random Forest models for geospatial AI, improving human mobility forecasting accuracy for diverse urban environments
- Processed and analyzed 10M+ geospatial data points using Pandas and NumPy to identify spatial movement patterns across major international cities such as Barcelona, Beijing, and Shanghai
- Illustrated findings and qualitative research results to 30+ cross-departmental peers in weekly lab presentations, driving new collaborations across computer science, geography, and urban studies

Thinger.io **Madrid, Spain**

Intern *June 2025 - July 2025*

- Launched a cloud product, ThinRemote, by collaborating with a software engineering team across Spain and Latin America, leveraging bilingual communication, Scrum, and Lean practices
- Applied API integrations and C++ development workflows to IoT technologies to improve platform accessibility for international clients

University of Minnesota College of Science & Engineering **Minneapolis, MN**

Computer Science Teaching Assistant *August 2024 - Present*

- Introduced over 700 students per semester to key programming concepts and Python fundamentals by leading lab sections, diagnosing and debugging program errors, and providing personalized tutoring during office hours
- Created an *Alternatives to AI Handbook*, compiling teaching methods, study strategies, debugging techniques, and online computer science resources to support students' learning and combat increased generative AI usage

PROJECTS

PradoEditor Mobile App (C++, JavaScript, Python) **June 2025 - July 2025**

- Developed a cross-platform mobile art editor with 6+ image manipulation tools (crop, rotate, filters) using C++ and Python, to enable efficient editing
- Collaborated with a team of 4 developers in an Agile workflow to deliver a fully launched product with a GUI, complete documentation, and version control
- Integrated the Prado Art Museum's full digital artwork collection by leveraging the cURL library and public APIs, expanding app functionality, and art accessibility

Mapping International Gentrification (Python, SQL) **May 2025 - Present**

- Processed large-scale census, Airbnb, and demographic datasets using SQL and Python data pipelines to construct a directed network to analyze the spread of gentrification across global tourist hubs
- Created geospatial visualizations with QGIS, Matplotlib, and GeoPandas, to reveal exclusionary neighborhood patterns and inform ongoing urban studies research

SKILLS

Programming Languages: C, C++, CSS/HTML, LaTeX, Java, JavaScript, OCaml, Python, R, SQL
Software: Git/GitHub, Markdown, PostgreSQL, QGIS, R-Studio, VS Code
Languages: English (Native Language), Spanish (Working Proficiency)