Rhett Olson

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EDUCATION

University of Minnesota, Twin Cities — *Minneapolis, MN*
College of Science and Engineering, University Honors Program — expected December 2024
Bachelor of Science, Computer Science
Bachelor of Science, Mathematics — **GPA: 3.888/4.0**

RESEARCH EXPERIENCE

*DIMACS REU (**R**esearch **E**xperience for **U**ndergraduates)* — *Piscataway, NJ*
REU Participant — May 2024 – July 2024

- Researching a project entitled 'Truth Learning in Social and Adversarial Settings' with Prof. Jie Gao and two other undergraduate students at an REU program hosted by Rutgers University.
- Investigating when it is possible for a social network to collectively learn a truth state about the world, despite the presence of adversarial agents that try to spread false information.

Knowledge Computing Lab — *Minneapolis, MN*
Undergraduate Researcher — May 2023 – ongoing

- Won 1st place in the 2023 ACM SIGSPATIAL student research competition for authoring an approach for automatically retrieving scanned historical maps of a given place that reveal the different names used by that place over time. This work aims to support scholarly analysis of place name changes.
- Furthering this research to enable queries for place names containing multiple words, and to collaborate with scholars in other disciplines to create open data linking historical place names to the maps on which they appear.

Robotics: Perception and Manipulation Lab — *Minneapolis, MN*
Undergraduate Researcher — May 2023 – September 2023

- Contributed to an application for controlling a Boston Dynamics Spot. Acquired a deep understanding of a codebase with over 200 files, and implemented new functionality allowing the robot to navigate between points in a room it has previously visited, while autonomously detecting and dragging away obstacles in its path.
- Collaborated with 4 other undergraduate students, presented progress in lab meetings, tested code with the robot, assisted in onboarding new people to the project by documenting and explaining the system.

TEACHING EXPERIENCE

University of Minnesota — *Minneapolis, MN*
Undergraduate Teaching Assistant — January 2022 – May 2023

- Leads 3 groups of 30-40 students through weekly lab assignments, with teams of 2-3 other undergraduate teaching assistants. Answers student's questions, provides hints for how to solve problems, gives feedback on the quality of their code. Ensures that all students complete and understand lab problems.
- Support students' learning in office hours. Troubleshoots bugs in students' code, and guides them through the debugging process. Asks questions to assess students' gaps in understanding, and gives mini lectures to close those gaps. Mentors peer students in how to be successful in C.S. coursework with advice from my experience.
- Courses:
  - *Exploring CSCI: Python* (january 2022-may 2022)
  - *Introduction to Programming Principles* (september 2022 - may 2023),
  - *Advanced Programming Principles* (september 2023 - December 2023)
  - *Program Design and Development* (January 2024 - December 2024)

AWARDS

2024 Student Research Competition 3rd Place (Undergraduate), 2024 ACM SRC Grand Finals

- Won 3rd prize for an extended version of my paper, "An Automatic Approach to Finding Geographic Name Changes on Historical Maps."
- In this competition, my paper was judged against submissions from the 21 other undergraduate 1st-place winners from student research competitions held by ACM conferences in 2023 across many fields of research.

2023 Student Research Competition 1st Place (Undergraduate), 31st ACM SIGSPATIAL Conference

- Won 1st place for paper, poster, and conference presentation entitled "An Automatic Approach to Finding Geographic Name Changes on Historical Maps".
- Presented along with other finalists in the main session of the 2023 SIGSPATIAL conference in Hamburg, Germany.

2023 ACM SIGSPATIAL Travel Grant Recipient

- Awarded a $1000 National Science Foundation travel grant to attend the 2023 ACM SIGSPATIAL Conference.

2023 University of Minnesota Niccum Travel Grant Recipient

- Awarded a $1000 travel grant from my university to attend the 2023 ACM SIGSPATIAL Conference.

2023 Undergraduate Research Opportunities (UROP) Grant Recipient

- Awarded a grant by the University of Minnesota to fund a research project on temporal analysis of historical maps with professor Yao-Yi Chiang.

2021-24 Dean's List, University of Minnesota College of Science and Engineering

PUBLICATIONS

Olson, R., Kim, J., and Chiang, Y. Y. (2024). Automatic Search of Multiword Place Names on Historical Maps. In 3rd ACM SIGSPATIAL International Workshop on Searching and Mining Large Collections of Geospatial Data. Accepted, to appear.

Olson, R., Kim, J., & Chiang, Y. Y. (2023). An Automatic Approach to Finding Geographic Name Changes on Historical Maps. In Proceedings of the 31st ACM International Conference on Advances in Geographic Information Systems. 1–2.

COMMUNITY SERVICE

Hennepin County Library *Minneapolis, MN,* January 2020-March 2020
Volunteer Homework Help Tutor
- Supported local elementary through secondary school students by providing free, drop-in tutoring and homework help at a local library.

Murray Middle School *Minneapolis, MN,* March 2020-June 2020
Volunteer 1-on-1 Tutor
- Tutored a local grade 7 student to help her navigate online school during the COVID-19 pandemic.
- Ensured she passed all of her classes despite her initially struggling to adjust to online classes.

EXTRACURRICULAR ACTIVITIES

Board Games Club, University of Minnesota *Minneapolis, MN* ,September 2021 – ongoing
- Joins fellow students to learn and play various board games.
- Enjoys meeting new people and teaching them how to play games.

Knitting & Crocheting Club, University of Minnesota *Minneapolis, MN,* October 2021 – ongoing
- Gathers with fellow crafters to knit and chat.
- Enjoys inventing new patterns, and teaching knitting concepts to others.

REFERENCES

Professor Yao-Yi Chiang

Department of Computer Science and Engineering, University of Minnesota

5-191 Kenneth H. Keller Hall 200 Union Street SE, Minneapolis, MN 55455, USA

yaoyi@umn.edu

Relationship: Professor and research advisor of 1 year.

Professor Jie Gao

Department of Computer Science, Rutgers University

Hill Center 411, 110 Frelinghuysen Road, Piscataway, NJ 08854

jg1555@cs.rutgers.edu

Relationship: REU advisor for 9-week summer program

Professor Karthik Desingh

Department of Computer Science and Engineering, University of Minnesota

141 Shepherd Labs 100 Union St SE, Minneapolis, MN 55455, USA

kdesingh@umn.edu

Relationship: Professor and research advisor of 4 months

Professor Shana Watters

Department of Computer Science and Engineering, University of Minnesota

321 Lind Hall 207 Church Street SE, Minneapolis, MN 55455, USA

watt0087@umn.edu

Relationship: Professor of 4 years