NATALIE NEAMTU

Seattle, WA • neamtu@cs.washington.edu • https://nneamtu.github.io/

EDUCATION

UNIVERSITY OF WASHINGTON **SEATTLE, WA**
PAUL G. ALLEN SCHOOL OF COMPUTER SCIENCE & ENGINEERING
PhD, Computer Science *SEPTEMBER 2024 – PRESENT*
Advisors: Ratul Mahajan, Tom Anderson

CORNELL UNIVERSITY, COLLEGE OF ARTS & SCIENCES **ITHACA, NY**
Bachelor of Arts, Computer Science (summa cum laude) & Mathematics *SEPTEMBER 2018 – MAY 2021*
GPA: 4.21/4.3

RUTGERS UNIVERSITY HONORS COLLEGE **NEW BRUNSWICK, NJ**
GPA: 4.0/4.0 *SEPTEMBER 2017 – MAY 2018*

PUBLICATIONS

Natalie Neamtu, Haobin Ni, and Robbert Van Renesse. Trees and Turtles: Modular Abstractions for State Machine Replication Protocols. In *Proceedings of the 10th Workshop on Principles and Practice of Consistency for Distributed Data (PaPoC '23)*. arXiv.

AWARDS

- **NSF CSGrad4US Fellowship** (2023). Selected from early-career individuals with the demonstrated potential to be high-achieving CISE researchers and innovators and to broaden participation among groups underrepresented in CISE disciplines.
- **Cornell University Merrill Presidential Scholar** (2021). Selected from top 1% of graduating class based on academic scholarship, demonstrated intellectual drive, and leadership abilities.
- **Alan S. Marx Memorial Prize for Excellence in Teaching** (2021). Awarded annually to 2 graduating seniors by the Cornell University computer science department.
- **Outstanding TA Award** (2020). Received for service as TA (CS 3110, Cornell University).
- **Frank and Rosa Rhodes Scholarship** (2019). Given to one outstanding scholar annually from each of the seven undergraduate colleges at Cornell University.

PROFESSIONAL EXPERIENCE

MICROSOFT (BING) **REDMOND, WA**
SOFTWARE ENGINEER *AUGUST 2021 – SEPTEMBER 2024*

- Member of team that launched LLM-generated Stories on Bing. Created LLM-based quality measurements; applied prompt engineering techniques to improve grounding by 20%. Re-designed media selection process to improve relevance by 49%. Ran A/B experiments to evaluate UX and data changes.
- Created automated data curation and ingestion processes for Bing's knowledge graph. Designed crowdsourcing applications achieving >95% precision to improve data accuracy from 85% to >99%. Designed and implemented data processing pipelines to meet freshness requirements and process millions of videos daily.
- Facilitated team learning sessions on LLMs and prompt engineering, wrote team guide on effective use of crowdsourcing projects. Mentored team's intern to accepted return offer.

MICROSOFT (BING) **REDMOND, WA**

SOFTWARE ENGINEER INTERN *JUNE 2020 – AUGUST 2020*

- Debugged research prototype of template learning and extraction algorithm for web pages. Optimized to run in parallel on millions of pages and proposed improvements to algorithm.
- Designed and implemented UX and quality control measures for crowdsourced web page data extraction application, which continues to be used by a generic data extraction service for Bing.

MICROSOFT (OS DATA INTELLIGENCE) **REDMOND, WA**

EXPLORER INTERN *JUNE 2019 – AUGUST 2019*

- Worked with group of 2 other interns to design and implement search functionality for internal website. Created search index and corresponding ASP.NET API using Azure Search service. Designed and implemented UX component for search autocomplete suggestions dropdown.

BANK OF AMERICA MERRILL LYNCH **NEW YORK, NY**

GLOBAL TECHNOLOGY FRESHMAN SUMMER ANALYST INTERN *JUNE 2018 – AUGUST 2018*

- Created sentiment analysis system for internal employee surveys, allowing analysis on 1,000s of responses. Provided insights on how to improve company's internal technology services. Presented impact to CTO.

INDEPENDENT PROJECTS

CORNELL UNIVERSITY

CS 5114 (NETWORK PROGRAMMING LANGUAGES) FINAL PROJECT *APRIL 2021 – MAY 2021*

- "Keeping Your Priorities Straight": Proposed design for an OpenFlow network controller composed out of composable, single-function modules using the relative priority of those modules. Report and prototype.

CORNELL UNIVERSITY

UNDERGRADUATE RESEARCH ASSISTANT *JANUARY 2020 – MAY 2021*

- Modular abstractions for state machine replication protocols: Proposed modular building blocks to improve reusability, flexibility, and ease of understanding.
- Formal models of asynchronous, Byzantine consensus protocols in Dafny: Constructed first formal proof of safety properties of Bosco protocol, proved new liveness properties not discussed in original paper. Code repository.

TEACHING & OUTREACH

TEACHING ASSISTANT (CORNELL UNIVERSITY) *SEPTEMBER 2019 – MAY 2021*

- Courses: CS 3110 (Functional Programming), CS 4160 (Formal Verification), CS 5432 (Advanced System Security).
- Hold weekly recitation sessions and office hours, grade coding and written assignments, write homework and exam questions, assist in creating course materials.
- **Lead TA for Lab Development** (CS 3110, Fall 2020): Led team of 10 course staff members to develop new weekly lab assignments to be used in current and future iterations of the course.
- Tested assignments and edited course materials for new course (CS 5432, Spring 2021).

GENERAL OUTREACH VOLUNTEER (WICC) *SEPTEMBER 2018 – MAY 2019*

- Volunteered for outreach events and programming contests for high school students at Cornell.

MEMBER (RUTGERS DOUGLASS-DIMACS COMPUTING CORPS) *SEPTEMBER 2017 – MAY 2018*

- Visited local middle schools and hosted field trips young women interested in computing.