KEVIN ROS

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EDUCATION

University of Illinois, Urbana-Champaign *September 2020 - Present*
Ph.D. Candidate in Computer Science

Vassar College (GPA: 3.83) *September 2016 - May 2020*
B.A. in Computer Science
B.A. in Mathematics

AWARDS

Outstanding Teaching Assistant 2021
University of Illinois, Urbana-Champaign

Nominated by faculty for dedication and great work during a teaching assistantship.

Saburo Muroga Endowed Fellowship 2020
University of Illinois, Urbana-Champaign

Awarded to outstanding graduate students in computer science.

Honorable Mention, NSF GRFP 2020
University of Illinois, Urbana-Champaign

NSF Graduate Research Fellowship Program

Honorable Mention, 2020 Spring USRESP 2020
Vassar College

Undergraduate Statistics Research Project Competition.

Sigma Xi 2020
Vassar College

For research achievement and potential.

Departmental Honors 2020
Vassar College

Computer Science, Mathematics.

PUBLICATIONS

Ros, Kevin, Maxwell Jong, Chak Ho Chan, and ChengXiang Zhai. "Generation of Student Questions for Inquiry-based Learning." In 15th International Natural Language Generation conference (INLG 2022). Association for Computational Linguistics, 2022.

Edwards, Carl, Tuan Lai, Kevin Ros, Garrett Honke, and Heng Ji. "Translation between Molecules and Natural Language." arXiv preprint arXiv:2204.11817 (2022).

Ros, Kevin, Carl Edwards, Heng Ji, and ChengXiang Zhai."Team Skeletor at Touche 2021: Argument Retrieval and Visualization for Controversial Questions." In CLEF (Working Notes), pp. 2441-2454. 2021.

Naumov, Pavel, and Kevin Ros. "Strategic coalitions in stochastic games." Journal of Logic and Computation 31, no. 7 (2021): 1845-1867.

Naumov, Pavel, and Kevin Ros. "Comprehension and knowledge." In Proceedings of the AAAI Conference on Artificial Intelligence, vol. 35, no. 13, pp. 11622-11629. 2021.

Ros, Kevin, Henrik Olsson, and Jingchen Hu. "Two-Phase Data Synthesis for Income: An Application to the NHIS." In Privacy in Statistical Databases. 2020.

Naumov, Pavel, and Kevin Ros. "Strategic coalitions in systems with catastrophic failures." In Sixteenth International Conference on Principles of Knowledge Representation and Reasoning. 2018.

WORK EXPERIENCE

Research Scientist Intern June 2022 - August 2022
ZettaBlock (startup) *San Francisco, CA*

Researched cutting-edge technologies (IPFS, Zero-knowledge Proofs) and their anticipated effects on the core business model. Trained and deployed a text-to-SQL model as a microservice using Flask, Docker, Python, PyTorch Lightning, and Hugging Face. Helped draft, write, and edit whitepaper.

AI Software Developer Intern May 2021 - August 2021
Trova AI, Inc. (startup) *Urbana, IL*

Researched, developed, and implemented several information retrieval techniques for user-focused personal search with emphasis on latency and scalability. Explored techniques to re-rank and present personalized heterogeneous results (e.g., email, Slack, Jira). Architected a microservice search framework which leveraged a mix of external APIs and internal Elasticsearch.

RESEARCH EXPERIENCE

Research Assistant August 2020 - Present
Advisor: Dr. ChengXiang Zhai, University of Illinois, Urbana-Champaign *Urbana, IL*

Anticipating information needs without explicit queries.

Undergraduate Thesis September 2019 - May 2020
Advisor: Dr. Nancy Ide, Vassar College *Poughkeepsie, NY*

Topic: Using word embeddings from PubMed abstracts and literature-based discovery techniques to discover non-explicit relationships between mental illnesses and symptoms.

Undergraduate Research Assistant January 2019 - August 2020
Vassar College *Poughkeepsie, NY*

Worked with Dr. Nancy Ide and Keith Suderman to improve the document retrieval and ranking system for The Language Application Grid Question/Answer Service.

Independent Study September 2017 - Present
Vassar College *Poughkeepsie, NY*

Conducted research with Dr. Pavel Naumov to study soundness and completeness properties of multi-agent axiomatic systems with a probabilistic aspect.

REU Summer Research Program May 2019 - September 2019
Vassar College, funded by NSF *Poughkeepsie, NY*

Worked with Dr. Nancy Ide and Keith Suderman to optimize The Language Application (LAPPS) Grid Question/Answer service with RabbitMQ and Docker.

Independent Study September 2018 - December 2018
Vassar College *Poughkeepsie, NY*

Conducted research for Dr. Nancy Ide to extract information and trends from published geology research articles, specifically focusing on the relationships between mineral level and epochs.

TEACHING EXPERIENCE

TA, Text Information Systems August 2022 - December 2022
University of Illinois, Urbana-Champaign *Urbana, IL*

Managed the infrastructure for the course project submissions for over 400 students. Oversaw and guided students through the final course project process. Also designed, built, and implemented the Community Digital Library (see the "Projects" section below).

TA, Advanced Information Retrieval January 2022 - May 2022
University of Illinois, Urbana-Champaign *Urbana, IL*

Primarily responsible for organizing and monitoring of the course projects for 100 students. Helped students work through various topics in information retrieval.

TA, Text Information Systems August 2021 - December 2021
University of Illinois, Urbana-Champaign *Urbana, IL*

Managed the infrastructure for assignment and course project submissions for over 400 students. Oversaw and guided students through the final course project process.

TA, Introducion to Data Science May 2019 - August 2019
Vassar College (Liberal Arts Collaborative for Digital Innovation) *Poughkeepsie, NY*

Guided students through the foundations of data science while working closely with professors and other TAs to ensure that no student fell behind. Also aided in course material development, evaluation, and deployment.

PROJECTS

The Community Digital Library

Solely responsible for building an online platform for users to create communities, share webpages to the communities, and search the content saved within communities. The platform consists of a website (built using React, HTML/CSS, JavaScript, and Next.js), a Chrome extension (built using HTML and CSS), and a server backend (built using Python, Flask, communicates with MongoDB and AWS Opensearch). The platform has been used by over 400 students in the 2022 iteration of CS410, a large computer science course at the University of Illinois.

EXTRACURRICULAR ACTIVITIES

Conference Reviewer

EMNLP, 2022 (Language Generation Track)

Illinois Women's Varsity Volleyball Team September 2022 -Present

Student Manager

Illinois Men's Club Volleyball Team September 2020 -Present

Team Captain, 2022 - 2023
USAV National Champions, 2021

Vassar Men's Volleyball Team September 2016 - May 2020

AVCA All-American, 2020
Team Captain, 2018 - 2020