DANIEL RITTER
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EDUCATION

May, 2021 BA in Computer Science, BA in Political Science, Brown University. Cumulative GPA: 4.0, Graduated Magna Cum Laude and Phi Beta Kappa

August, 2022 (anticipated) MSc in Advanced Computer Science, Oxford University

WORK EXPERIENCE

Brown University | Providence, RI | June 2020 – 2021

Teaching Assistant for CS1470(Deep Learning) *September 2019 – December2019*

- Assisted in developing and grading course material slides and assignments
- Held weekly TA hours and labs to help students better understand the course material

Head Teaching Assistant for CS0030(Computation for the Social Sciences and Humanities)
September 2019 – December 2019

- Managed undergraduate TA staff for the course
- Allocated office hours and student resources

Teaching Assistant for CS1420(Machine Learning) *January 2021 – Present*

- Held weekly office hours to help students with course material
- Created and graded course assignments and projects

Kern Systems | Boston, MA | June 2020 – August 2020

Machine Learning Fellow *June 2020 – August 2020*

- Worked to create machine learning based compression systems for use in a DNA storage pipeline.
- Assisted in research on applying machine learning and AI methods to biodesign problems like protein search and functional fitness landscape estimation.

Perspectum Diagnostics | San Francisco, CA / Oxford, UK | June 2019 – August 2019

Image Analysis Intern *June 2019 – August 2019*

- Worked to develop and implement algorithms for automated processing of digitized pathology slides using deep/machine learning methods.
- Improved automated nuclei detection in biopsy slides significantly by replacing the original semantic segmentation algorithm(U-Net) with a more complex instance segmentation architecture(Mask-RCNN), solving a common failure case involving classification of overlapping nuclei.

RESEARCH EXPERIENCE

Oxford University | October 2021 – Present

Master's Dissertation *October, 2021- Present*

- Currently working on a dissertation involving concept-based explanations for large language models. Particularly, I am looking at the impact of high-level concepts on multitask/zero-shot performance in large language models.

Brown University | September 2018 – 2021

Honors Thesis *September, 2020-2021*

- Wrote a senior thesis focused on multiagent reinforcement learning and bounded computation in game-theoretic reasoning

DeepLTLf *September, 2019 - May 2021*

- Developed a specialized neural architecture for learning linear temporal logic formulae from example data.

Starcraft II ExAI Project *September, 2018- May 2019*

- Worked as part of the DARPA ExAI project to design a reinforcement learning agent capable of playing the RTS game Starcraft II