Patrick Phillips

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I am a third-year student at the University of Rochester intending to graduate in May 2021 with degrees in Computer Science (B.S), Applied Mathematics (B.S.) and Engineering Science (B.A.). I have been accepted into the GEAR graduate program to obtain a M.S. in computer science during a fifth year. Checkout my Website and Github.

GPA: 3.95/4.0

SOFTWARE PROFICIENCIES

I have the most experience programming in Python and am familiar with most of the popular ML and data science libraries such as TenorFlow, PyTorch, Numpy, SciPy, scikit-learn, Pandas, and Apache Spark. I also have experience with Java, C/C++, SQL, R, MATLAB, HTML, embedded programming, Linux/UNIX terminal and bash, Git and Docker. I write efficient and readable code.

WORK HISTORY

09/2018 – PRESENT **COMPUTER SCIENCE TEACHING ASSISTANT**

- TA of Design & Analysis of Efficient Algorithms (CSC 282), leading problem sessions and grading.
- Lab TA of Intro to Computer Science course (CSC 171), teaching the fundamentals of CS and helping on Java coding projects.

09/2018 – PRESENT **CHEMISTRY AND PHYSICS WORKSHOP LEADER**

- TA of Chemical Principles for Engineers course (CHM 137) and Electricity and Magnetism (PHY 122), leading weekly recitations and workshops.

05/2019 – 08/2019 **GERMAN ACADEMIC EXCHANGE SERVICE (DAAD) RESEARCH INTERNSHIP**

- I received a DAAD scholarship to do computer science research at the Technical University of Hamburg (TUHH) in the mechatronics department.
- My research focused on 'informative path planning' (IPP). The IPP goal is to find a path that maximizes information gain subject to some set of physical constraints. Read More.

06/2016 – 08/2018 **YMCA LIFEGUARD AND YOUTH SPORTS COORDINATOR**

- I worked at the Maplewood and Carlson-Metrocenter YMCA's (in Rochester, NY) as a lifeguard, volunteer tennis camp instructor and youth soccer coordinator and referee.

COMPUTER SCIENCE PROJECT HIGHLIGHTS

- Implemented many ML algorithms from scratch including backpropagation, Expectation Maximization for a HMM and for Mixture of Gasusians, K-Nearest-Neighbors, variations of genetic algorithms, and more. These were done in Python and can be found on my Github.
- Collaborated on many data science projects with specific applications in recommender systems, language processing, medical diagnosis classification and more as a member of the *Undergradute Data Science Council* at the University of Rochester.
- Completed the projects in *Computer Systems: A Programmer's Perspective: Robert O'Hallaron* as part of my computer organization course.
- Created chess, poker (Texas-Hold 'em), and connect-4 AI players using tree search algorithms with alpha-beta pruning, Monte Carlo search, and other added heuristics specific to the respective games, in Java.

References available upon request.