

Benjamin H Glick

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Goals

To be a team cheerleader and tactician, to use my subject knowledge technical skills and interpersonal skills to take part in valuable projects.

Strengths/Skills

Planning, problem solving, tactics, motivating or inspiring others, anchor of a team or group, ability to develop CS skills, speed at grasping new and complex concepts. Technical skills include python, c, c++, databases, javascript, html/css, java, functional programming including lisp and haskell, network programming, systems software, and \LaTeX .

Education

2016-Present Student (BA, Physics & Mathematics/Computer Science, Expected 2020) - Lewis and Clark College

Relevant Coursework Includes

- Computer Networks and Web Development
- Computer Architecture and Assembly Languages
- Computer Graphics
- Linear Algebra
- Single-variable and Multi-variable Calculus
- Independent Study in High Performance Compute Job Optimization
- Discrete Mathematics
- Physics Sequence Including
 - Mechanics
 - Waves and Matter
 - Electricity and Magnetism
 - Thermodynamics
 - Experimental Methods in the Physical Sciences

Mentors and Advisors

- Lab Mentor at University of Chicago/Argonne National Lab: Ian Foster
- College Mentor and Advisor: Jens Mache

2012-2016 Student (High School Diploma, 2016) - The University of Chicago Laboratory High School

Experience

Jan 2019 - May 2019 Lewis and Clark College
Teaching Assistant

Teaching assistant for Lewis & Clark's CS 495 Parallel and High Performance Computing. My duties include teaching classes, holding office hours, providing advice to students, and assisting with design of course-work.

- May 2018 -** General Electric Transportation
Aug. 2018 *Digital Technology Leadership Program Intern*
 Member of a production cybersecurity team. Designed prototype and proof of concept software and hardware systems. Designed and implemented software solutions for locomotive control computers and the GoLinc platform relating to data collection, encryption, management, and movement. Developed internal tools for security and cost audits of product teams.
- June 2017 -** Swift Project, Argonne National Laboratory / Computation Institute, University of Chicago
Present *Undergraduate Student Developer*
 The Swift research group creates and maintains high-performance computing tools for scientific and data-intensive computing. With Swift, I develop, maintain, and manage tools to make data-intensive and computationally demanding tasks easy to use, secure, and scalable in a variety of computing environments from multicore computers to some of the largest supercomputers in the world. I contribute to development of live projects with active scientific users as well as prototypes for future projects.
- Jan 2018 -** Watzek Library, Lewis and Clark College
Present *Digital Initiatives Assistant*
 Watzek Digital Initiatives handles Lewis & Clark's digital collections and infrastructure, as well as supporting research and academic computing on campus. As DI assistant, I manage operation of LC's high-performance computing infrastructure, design solutions to help professors solve digital problems, and assist in maintenance of the library's digital information resources.
- Jan 2018 -** Lewis and Clark College
May 2018 *Teaching Assistant*
 Teaching assistant for Lewis & Clark's CS 393 Computer Networks course. My duties include teaching classes, holding office hours, providing advice to students, and assisting with design of coursework.
- May 2017 -** Knowledge Lab, University of Chicago / IQSS/Harvard Business School
Aug. 2017 *Research Assistant*
 I designed, deployed, and analyzed a survey to scientists which was used to help understand how and why authors cite particular works and whether their citations can be used as a measure of performance in science. The survey used proprietary data on millions of scientists and their publications/citations.
- Jan. 2017 -** Lewis & Clark College
May 2017 *Stewart LLC Coordinator*
 I was responsible for community development in the Stewart residence hall Holistic Wellness Living Learning Community. I planned events, promoted discussion of community guidelines, and worked with the Campus Living staff to ensure that residents felt safe and happy in their residence hall.
- June 2016 -** Globus/Computation Institute, University of Chicago
Aug. 2016 *Summer Intern*
 Worked on a team to develop a resource for the globus group at the University of Chicago. Developed a product which allows scientists to securely search, share, process and access confidential scientific data stored in the globus cloud.
- June 2015 -** Computation Institute, University of Chicago
Aug. 2015 *RDCEP Summer Scholar*
 Developed and applied skills in Mathematics and Computer Science. Member of a small team of high school interns on projects using large scale data. Developed ability to build my own solutions using mathematical models. Navigate and organize a team with different skills and motivation levels

Talks and Presentations

- Nov 2018** SC '18
Lightning Talk
Lightning talk for students about research in accessibility of high-performance computing systems to people of varying computational experience.
- May 2018** Lewis & Clark College Faculty Technology Institute
Oral Presentation
Talk introducing the applications and opportunities associated with High Performance Computing, focused on how LC faculty may be interested in HPC..
McWilliams, J. A., **Glick, B.H.**, Abbaspour, P. High Performance Computing at L&C. In *Program of Faculty Technology Institute, 2018* (May 2018). DOI: 10.13140/RG.2.2.35801.01125
- May 2018** Lewis & Clark College Faculty Technology Institute
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Talk introducing the applications and opportunities associated with High Performance Computing, focused on how LC faculty may be interested in HPC..
McWilliams, J. A., **Glick, B.H.**, Abbaspour, P. High Performance Computing at L&C. In *Program of Faculty Technology Institute, 2018* (May 2018). DOI: 10.13140/RG.2.2.35801.01125
- Apr. 2018** Lewis & Clark College Festival of Scholars and Artists
Oral Presentation
Talk introducing the applications and opportunities associated with High Performance Computing, specifically relating to how and why Lewis & Clark students, staff and faculty might utilize HPC.
Glick, B.H. A Gentle Introduction to High Performance Computing. In *Program of the Festival of Scholars and Artists, 2018* (Apr. 2018). DOI: 10.13140/RG.2.2.35801.01125
- Mar. 2018** Oregon Academy of Science
Oral Presentation
Work relating to Accessible High-Performance Computing presented at Oregon Academy of Science annual meeting.
Glick, B.H. and Mache, J. Building an Accessible Web-Based Frontend for High-Performance Clusters. In *Proceedings of the Oregon Academy of Science*. (Mar. 2018). DOI: 10.13140/RG.2.2.24328.11528

Publications

- Feb. 2019** Oregon Academy of Science
Abstract and Oral Presentation (Forthcoming)
Abstract and talk describing a novel approach to HPC job scheduling, using machine learning to predict HPC job behavior in order to create a more intelligent execution schedule.
Glick, B. H. and Mache, J. "Using Machine Learning to Enable Job-Aware Scheduling". In *Proceedings of the Oregon Academy of Science* (Feb. 2019)
- Nov. 2018** SC '18/ EduHPC '18
Workshop Paper
Article describing high-performance computing workflow optimization platform, specifically designed to provide an HPC environment conducive to educational computing accepted to Workshop on Education and High Performance Computing 2018 (EduHPC 18), at SC '18.
Ben Glick and Jens Mache. 2018. *Jupyter Notebooks and User-Friendly HPC Access* Workshop on High Performance Computing and Education, 2018 (EduHPC '18), at the International Conference for High Performance Computing, Networking, Storage and Analysis (SC '18) (Nov. 2018). DOI 10.1109/EduHPC.2018.00005. <https://ieeexplore.ieee.org/document/8638386>

- Oct. 2018** Consortium of the Computing Sciences in Colleges, Northwest Region.
Poster and Award
Poster describing computational platform for providing researchers and students with access to high-performance computing resources without requiring technical knowledge about the underlying HPC software and hardware presented at CCSC-NW meeting and won best student poster award for 2018 meeting.
- Oct. 2018** Journal of Computing Sciences in Colleges
Journal Article
Article describing an open-source course curriculum and additional teaching materials published in J. Comput. Sci. Coll.
Ben Glick and Jens Mache. 2018. *Using jupyter notebooks to learn high-performance computing*. J. Comput. Sci. Coll. 34, 1 (October 2018), 180-188. (Oct. 2018) <https://dl.acm.org/citation.cfm?id=3280518>
- Oct. 2018** Consortium of the Computing Sciences in Colleges
Paper
Paper describing an open-source course curriculum and additional teaching materials accepted to the Northwest regional Conference of the Consortium of the Computing Sciences in Colleges. Paper presents an interactive course meant to be either taught or used on a self-guided basis. Paper will be published in Journal of the Computing Sciences in Colleges.
Glick, B.H. and Mache, J. USING JUPYTER NOTEBOOKS TO LEARN HIGH-PERFORMANCE COMPUTING. In *Proceedings of the Conference of the Northwest Regional Consortium of Computing Sciences in Colleges*. (Oct. 2018)
- Aug. 2018** The International Conference on Parallel Processing
Paper
Poster and Paper describing an extensible ecosystem of accessibility tools for convenient HPC use without complex command line skills.
Glick, B.H. and Mache, J. An Extensible Ecosystem of Tools Providing User Friendly HPC Access and Supporting Jupyter Notebooks. In *Proceedings of The International Conference on Parallel Processing*. (Aug. 2018). <http://oaciss.uoregon.edu/icpp18/views/includes/files/pos107s1-file1.pdf>.
- Mar. 2018** Oregon Academy of Science
Abstract for Oral Presentation
Work relating to Accessible High-Performance Computing published at Oregon Academy of Science.
Glick, B.H. and Mache, J. Building an Accessible Web-Based Frontend for High-Performance Clusters. In *Proceedings of the Oregon Academy of Science*. (Mar. 2018). DOI: 10.13140/RG.2.2.24328.11528
- Nov. 2017** IEEE and ACM SIGHPC
Poster
Work relating to cloud computing infrastructure published at SC 2017.
Glick, B.H., Babuji, Y.N., and Chard, K. 2017. Scalable Parallel Scripting in the Cloud. In *Proceedings of the International Conference for High Performance Computing, Networking, Storage and Analysis (SC '17)*. (Nov. 2017). 2 Pages. DOI: 10.13140/RG.2.2.20048.81922

Awards, Group Memberships, and Recognition

- Sep. 2017-Present** Python Software Foundation
Membership
Became a contributing member (voting membership) of the Python Software Foundation by invitation.

- Sep. 2017** Lewis & Clark College
Special Selection
Selected to be a member of the Lewis & Clark College Council on Advanced Research in Data Science
- Jun. 2017- Present** The Association of Computing Machinery
Membership
Became a member of the Association for Computing Machinery and ACM SIGHPC Special Interest Group in High-Performance Computing.
- May. 2017- Present** Institute of Electrical and Electronics Engineers
Membership
Became a member of the Institute of Electrical and Electronics Engineers (IEEE)
- May 2017** Lewis & Clark College
Award
Dean's list, 2017 Spring.
- April 2017** National Cyber League
Competition
Placed 60th (out of 2000) in the 2017 Spring National Cyber League cybersecurity competition.
- April 2017** National Cyber League Team Competition
Competition
Placed 38th in the 2017 Spring National Cyber League team cybersecurity competition.
- Feb. 2017** Pacific Rim Regional Cyber Defence Competition
Competition
Placed 3rd in the 2017 Pacific Rim Regional Cyber Defence Competition.

Activities

- Jan. 2018 - Present** Lewis & Clark College Student ACM Chapter
Founder and Chair
I am one of the founding board members of the Lewis & Clark College ACM Student Chapter. The ACM Chapter oversees all extracurricular computer science related activity, including organizing teams for competitions, hosting speakers and career events, and a colloquium series on topics in the computing sciences.
- Jan. 2018 - Present** Lewis & Clark College Fire Arts Club
Vice President and Financial Officer
I am an officer of the Fire Arts Club at Lewis & Clark. I am responsible for planning and safely executing fire arts performances, ensuring that our club is a safe and welcoming environment, and ensuring that the budget remains balanced.
- Sep. 2004 - Present** Brett Wolf Judo/Menomonee Judo Club
Senpai/Judoka
Competed at National Level, Taught beginner students, disabled students, and military veterans. Learned leadership skills through mentoring and coaching younger teammates. Learned to teach in an adaptive way from working around people's various abilities. Developed ability to approach events in my life with a belief system that helps me have empathy and integrity.

Sep. 2015 - University of Chicago Laboratory High School

Jun. 2016 *Board Member, Computer Science Club*

Founding board member of the U-High computer science club (code@lab). Responsible for planning club activities and meetings, as well as engaging and recruiting members.

Aug. 2015 - University of Chicago Laboratory High School

June 2016 *Member, Varsity Soccer Team*

Joined team as a senior, learned how to be a valuable part of the team despite my soccer technical skills not being as good as others'. Developed tactics and helped to implement small tactical fixes. helped younger players adjust and gave them someone to relate to.