Samantha Andow

cs.hmc.edu/∼sandow

Education

Harvey Mudd College, B.S. Computer Science with Honors Major GPA: 3.3 May 2018
Relevant Coursework: Compilers | Domain Specific Languages | Machine Learning | Algorithms
Artificial Intelligence | Data Structures and Program Development | Computer Security

Skills

C++ | Python | Java | C | Scala | Haskell | Kotlin | Git | SVN

Work Experience

Software Engineer, Meta/Facebook Aug 2018-Present
Aug 2018-Jun 2021
Helped lead a team of engineers focused on researching automatic differentiation in a compiled language
Built a compiler plugin that performs compile-time automatic differentiation on Kotlin IR
Optimized Kotlin library to demonstrate performance within 2x of handwritten C++
Aligned with partner teams on work prioritization and guided junior engineers through projects
Jun 2021-Present
Helped develop functorch, integrating composable transforms like vmap and grad with PyTorch
Built ExpandedWeights, an API for per sample gradients with 2x speedups over comparable methods
Expanded Torch Dispatch Mode, enabling extensions for PyTorch in Python for next gen development

Software Engineering Intern, Microsoft Corperation May-Aug 2017
Built a proof of concept for an expansion to Microsoft's cluster that enables servers to run Kubernetes
Expanded ability of 250,000 machines in Microsoft Cosmos to be able to manage Docker containers
Began development towards supporting long-running, stable containers in Azure Data Lake

MyCS Research Assistant, Harvery Mudd College May-Aug 2016
Led 5 other students to improve an existing middle school computer science curriculum, called MyCS
Ran 3 professional developments for 30 teachers, who teach 4,000 students in the 2016-2017 school year
Analyzed 5,000 student surveys from the 2015-2016 year to study the effects of the curriculum
Adjusted curriculum based on teacher feedback and student data to facilitate education of all students

Leadership Experience

South Dorm President, Harvey Mudd College May 2015-May 2018
Communicated with faculty and staff to create a happy, healthy living and working environment
Passed legislature in Harvey Mudd College Student Senate that shapes student life
Shaped equitable and comprehensive regulations for student room draw

Project Experience

From MyCS to our CS, MyCS Summer Research May-Aug 2016
Synthesized data from 5,000 students surveys to write a paper on computer science education
Recommended improvements to the curriculum in the paper based on a district wide pilot program
Submitted paper and poster to *Special Interest Group in Computer Science Education* Conference

To-Done May-Aug 2016
Developed domain-specific language for taking categorized tasks and combining them into one list

Autonomous Nerf Turret, Harvey Mudd College Hardware Hackathon Oct 2014
Collaborated with 3 others over 15 hours to remodel a Nerf gun into an autonomous turret
Learned Raspberry Pi control flow and IO functionality to interact with Nerf gun
Programmed Nerf gun with a Raspeberry Pi to turn and shoot continuously within the a turning radius