Pascal Sturmfels

University Address: 1780 Broadway St., Apt 213., Ann Arbor, MI 48105
Phone: 510 220 0281
email: psturm@umich.edu

Education

April 2018 — BSE in Computer Science, **University of Michigan, Ann Arbor**
Course Work: Natural Language Processing, Machine Learning, Data Mining, Design and Analysis of Algorithms, Microprocessors
GPA: 4.00/4.00

Work Experience

January 2016 – December 2016 — Secure Smartphone Communication
University of Michigan
Developped a peer-to-peer, censorship resistant micro-blogging app for iOS using Multipeer Connectivity and Core Data. Designed a protocol to route and store messages and message ratings in an ad-hoc network.

Summer 2016 — Computer Scheduling and Optimization
University of Maryland
Improved the approximation bounds of existing algorithms for scheduling in the online concurrent open shop model. Implemented and tested scheduling algorithms on random bipartite graphs in Matlab.

May 2016 – July 2015 — Computational Biology
University of California, Berkeley
Developed data visualization tools for next-generation sequencing software. Reduced storage size of genomic datasets by an order of magnitude. Designed an automated system to analyze, visualize and serve genomic data, located at pachterlab.github.io/lair.

Personal and School Work

Current — Teaching Assistant
Teaching assistant for the Theory of Computation class. Covering algorithm paradigms, including greedy, graph algorithms, and dynamic programming. Discussing algorithm design and algorithm complexity analysis.

Current — iPhone Game Development
Solo-developing an iPhone game, Avalanche, using Swift and SpriteKit. Integrating Game Center to track and connect users' achievements and scores. Designing interactive game scenes and sprite animations in Adobe Illustrator.

Publications

[1] S. Khuller, J. Li, P. Sturmfels, K. Sun, and P. Venkat. "Select and Permute: An Improved Online Framework for Scheduling to Minimize Weighted Completion Time". In: *ArXiv e-prints* (Apr. 2017). arXiv: 1704.06677 [cs.DS].

[2] Harold Pimentel, Pascal Sturmfels, Nicolas Bray, Páll Melsted, and Lior Pachter. "The Lair: a resource for exploratory analysis of published RNA-Seq data". In: *BMC Bioinformatics* 17.1 (2016), p. 490. ISSN: 1471-2105. DOI: 10.1186/s12859-016-1357-2.