Tyler J. Skluzacek

skluzacek@uchicago.edu -- 952.220.1684

Education

University of Chicago, Chicago, IL | Expected Graduation: Dec. 2020
Ph.D. in Computer Science; Systems Concentration | **Advisors**: Ian Foster, Kyle Chard

Macalester College, St. Paul, MN | Degree Received: May 2016
B.A. in Applied Math/Stats; Minors in Computer Science and Economics

Experience

IBM Research; San Jose, CA | Jun. 2018 - Present
Graduate Research Intern | **Mentors:** Ed Seabolt, Mary Roth

- Create and implement microservice workflows for genome assembly in IBM's OMXWare.
- Program and implement integration tests to ensure continued quality assurance.
- Exercise working knowledge of genome assembly tools: Trimmomatic, Bowtie2, FLASH, SPAdes, QUAST.
- Construct user interface for genome file uploads and pipeline monitoring.
- Communicate with a number of biologists and bioinformaticians regarding system design.

University of Chicago Computation Institute | Jun. 2016 - Present
Graduate Research Assistant

- Develop Skluma/Klimatic, an extensible metadata extraction service for heterogeneous scientific repositories.
- Build machine learning (SVM, PCA, CNN) and statistical models (decision trees, linear regressions) to categorize and tag images, semi-structured files (HDF, NetCDF), structured files, and unstructured free text.
- Integrate AWS (CloudFormation, SQS, S3, ECS, EC2), Docker, Globus, Flask, and web crawling into research workflows.
- Successfully processed and tagged the US Dept. of Energy's CDIAC data set (500,000+ files, 5+ Terabytes).
- Mentored 19 summer interns ranging from high school to Masters students on wide-ranging computer systems and data science projects. Three such students had posters accepted to SC '17.

University of Minnesota Department of Computer Science | Summer 2015
REU Researcher and Post-REU Research Fellow
Faculty Mentors: Abhishek Chandra and Jon Weissman

- Edited and built MySQL and HBase layers of a multi-tiered cloud storage middleware for HDFS/Hadoop called *Tiera*.
- Simulated system usage on batched, tagged Twitter data between EBS, S3, and Glacier cloud storage tiers.

myBivy, Inc. | Sep. 2015 - May 2017
Founder and Inventor

- Invented Android/Android Wear application to track and treat traumatic nightmares in survivors of PTSD.
- Raised $26,000+ via Kickstarter and won over $25,000 by winning MentorMate's MobCon startup pitch competition.
- Educated people about myBivy through the media, with sources including BBC, PBS, USA Today, People, and others.

Momentum Enterprises | Sep. 2013 - Jan 2016
Employment Data Analyst and Software Designer

- Developed the internal JobGEM career search software in Java as an extension of a hackathon project.
- Utilized large MN government data sets to create reports for internal use by the company.

Publications and Patents

T. Skluzacek, R. Kumar, R. Chard, G. Harrison, P. Beckman, K. Chard, I. Foster. "Skluma: An extensible metadata extraction pipeline for disorganized data". *IEEE 14th International Conference on e-Science (e-Science)*. 2018.

T. Skluzacek, S. Rehman, I. Foster. "Safe Double Blind Studies as a Service". *Workshop on Safe Data Platforms and Paradigms*. 2017.

T. Skluzacek. Submitted Full Patent. "Method for Interrupting Night Terrors During Sleep". 2017. **PTO#62398908**

P. Beckman, **T. Skluzacek**, K. Chard, I. Foster "Skluma: A Statistical Learning Pipeline for Taming Unkempt Data Repositories". *International Conference on Scientific and Statistical Database Management (SSDBM)*. 2017.

T. Skluzacek, K. Chard, I. Foster. "Klimatic: A Virtual Data Lake for Harvesting and Distribution of Geospatial Data". In *1st Joint International Workshop on Parallel Data Storage and data Intensive Scalable Computing Systems (PDSW-DISCS)*. 2016.

Awards

Fifty for the Future Awardee - Illinois Technology Foundation	Mar. 2018
Outstanding Graduate Research Award - CERES Center for Unstoppable Computing	Sep. 2017
Graduate Research Fellowship Honorable Mention - National Science Foundation	Apr. 2017
Minnesota Rising Tech Star of the Year - Tech{Dot}MN	Dec. 2016
Hackathon Champion (1x), Finalist (3x) - HackDC, CarlHacks, Macathon (x2)	Sep. 2015

Skills

Languages: (Advanced) Python, R, (Intermediate) Java, C, (Familiar) C++, Javascript, Typescript

Technologies: Android, Apache Mesos, AWS, Apache Spark, Databases, Data Lakes, Docker, Git, Globus, Hadoop, HIPAA, Jenkins, Marathon, Slurm, SQL

Interests: Country Fiddle, App Development, Basketball, Graph Theory, Cooking, Tutoring, Copy-Editing