JOE LEDGER

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EDUCATION

Case Western Reserve University (CWRU)   *Cleveland, OH*

M.S. in Computer Science   *Expected Graduation: Spring 2018*
    Graduate GPA: 4.0

B.S. in Computer Science   *Expected Graduation: Spring 2017*
    Minor: Applied Data Science
    Undergraduate GPA: 3.56

Bronx High School of Science   *Graduated: Spring 2013*

KEY PROJECTS

Cached Personalized Page Rank
- · A research effort to speed Personalized Page Rank using precomputed proximity vectors.
- · Technologies: Java, Apache Commons Math, MySQL, Python, Matplotlib

Cell Line Classification Project
- · A research effort to predict cancer cell line drug response using machine learning.
- · Technologies: Python, Python Scientific Stack (Pandas, Scipy, Numpy, Matplotlib), Scikit-Learn

Green Labs Data Visualization Application
- · Desktop Application for creating high quality custom visualizations from energy sensor data.
- · Technologies: Qt, PyQt, Python, Pandas, Matplotlib

UnVolt Mobile/Web Backend
- · Developing a backend for an Personal Energy Recommendations mobile/web application.
- · Still early in development, but anticipated: Java, C, MySQL

WORK EXPERIENCE

CWRU Department of Computer Science   Summers: 2015, 2016

Undergraduate Researcher   *Cleveland, OH*

- · Summer 2015: Worked on the Cell Line Classification Project
  - · Used machine learning algorithms (Support Vector Machines and Decision Trees) to classify cell lines by their reaction to the cancer drug SMAPs using gene expression and IC50 data.
  - · Results presented at the 2015 CWRU Data Science Symposium and 2016 Research ShowCase.
- · Summer 2016: Working on Cached Personalized Page Rank
  - · Effort to speed Personalized Page Rank computations by using precomputed proximity vectors.
  - · Early results are promising: 25% speed increases for selected parameter settings.
- · Both Summers : Peer-reviewed papers for Academic Conferences (ACM-BCB 2015, APBC 2016)

CWRU Office of Sustainability   October 2015 - May 2016 (Part Time)

Desktop Application Developer   *Cleveland, OH*

- · Developed a desktop application with an easy-to-use GUI for non-technical users to make high-quality, fully-customizable data visualizations from energy sensors located in labs around campus. Also includes an integrated energy savings calculator.
- · Application is used by lab auditors who write reports on how behavior changes could save energy. Both visualizations and energy calculator results are included in reports.
- · Consulted with sustainability experts to determine best types of visualizations to include based on potential impact on behavioral changes.

BldgScout Progamming Intern June - September 2016 (Part Time)
Mobile/Web Backend Development *Cleveland, OH*

- Developing a mobile/web backend for UnVolt, an application designed to provide personalized energy saving recommendations to users based on location, personal preferences, and home characteristics.
- Collaborating with The Form Group (who are designing the mobile frontend) on a clear, consistent, and easy to use backend API.

RELEVANT COURSEWORK

Data Mining	Computer Networks
High Performance Scientific Computing	Algorithms
Causal Learning from Data	Database Systems
Bioinformatics for Systems Biology	Software Craftsmanship

*Courses in **bold** were taken at the graduate level.

TECHNICAL SKILLS

- Proficient with programming languages Python and Java.
- Experience with data science tools pandas, scikit-learn, scipy, and numpy.
- Experienced with SQL, Git, Linux Command Line, LaTeX.
- Experience with Cross-Platform Desktop Application Development with Qt.

HONORS AND AWARDS

- University Merit Scholarship — August 2013 - Present
- Alumni Association Outstanding Junior/Senior Scholarship — Spring 2016 - Present
- Dean's High Honor Roll — Spring 2014, Fall 2014
- Dean's Honor Roll — Spring 2015, Fall 2015, Spring 2016
- Varsity Athlete (Cross-Country, Track & Field) for CWRU — August 2013 - Present
- 5x UAA All-Academic Team — Spring 2014 - Present