

JOE LEDGER

(646) · 684 · 2248

joeledger.com

joeledger@gmail.com

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

Indexed Personalized Page Rank

- A research effort to speed Personalized Page Rank using precomputed proximity vectors.
- Technologies: Python, Scipy, 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

- Backend for an Personal Energy Recommendations mobile/web application.
- Still early in development, but anticipated: Java, Spring Boot, PostgreSQL

WORK EXPERIENCE

CWRU Department of Computer Science

Summers: 2015, 2016

Undergraduate Researcher

Cleveland, OH

- Summer 2016: Worked on Indexed Personalized Page Rank
 - Effort to speed Personalized Page Rank computations by using precomputed proximity vectors.
 - Results are promising: 50-100% speed increases for selected parameter settings.
 - Publication in draft stage.
- 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.
- 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 Programming Intern

June - September 2016 (Part Time)

Mobile/Web Backend Development

Cleveland, OH

- Developed 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.
- Designed and Implemented Scalability and Correctness Tests for all API endpoints.

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

- Highly Proficient with programming languages Python and Java.
- Proficient with C#, SQL.
- Some experience with C, Javascript.
- Experience with data science tools pandas, scikit-learn, scipy, and numpy.
- Experienced with Git, Linux Command Line, LaTeX.
- Experience with Cross-Platform Desktop Application Development with Qt.
- Experience with REST API development with Java Spring Boot.

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 |