

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

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.
- Technologies: 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

Spring 2016 (Part Time)

Desktop Application Developer

Cleveland, OH

- Developed a desktop application that creates customizable visualizations from energy sensor data.
- Application is used by lab auditors who write reports on how behavior changes could save energy.

BldgScout Programming Intern

Summer 2016 (Part Time)

Mobile/Web Backend Development

Cleveland, OH

- Fixed security issue with existing UnVolt Engine involving the processing of user passwords.

- Prototyped new version of UnVolt Engine using Java Spring Boot.
- Designed and implemented scalability and correctness tests for all API endpoints.

RELEVANT COURSEWORK

Data Mining

High Performance Scientific Computing

Machine Learning

Software Engineering

Database Systems

Computer Networks

Algorithms

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, Scheme.
- 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

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| · 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 |