James Jeffryes

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Technical Skills

Languages	Python (Advanced), JavaScript (Intermediate), SQL (Intermediate), Perl (Basic), Java (Basic)
Data Science	Machine learning with pandas, scikit-learn & dask, Cluster computing, MongoDB, Redis
Web Development	Django, APIs and microservices with Flask & Docker, Angular.js, Node.js, RequireJS, Protractor

Experience

Since July 2017 — Postdoctoral Researcher at Argonne National Laboratory
Mathematics and Computer Science Division, Lemont, IL

- Implemented 4 new tools and contributed over 20 existing microservices in the Department of Energy Biological Knowledgebase.
- Redesigned a critical data type storing genome annotations and implemented ETL methods and an access API to minimize disruption of the 19 microservices using this data type.
- Built data visualization widgets and dynamic reports with Python and JavaScript.
- Worked closely with scientific stakeholders as a member of an Agile development team
- Maintained and extended a legacy Perl codebase of more than 70,000 lines.

Nov 2016 – Aug 2016 — Data Science & Computational Biology Intern at Intrexon Corporation
Industrial Products Division, South San Fransisco, CA

- Architected and implemented a computational pipeline for aggregation, annotation and prioritization of enzymes with novel biosynthetic potential.
- Cleaned, parsed and presented substrate and reaction data from external datasources.
- Designed and deployed a containerized Flask application to bring analysis results directly to users.
- Constructed visualizations for complex, hierarchical, and heterogeneous biological data.

Jun 2017 – Mar 2013 — Graduate Research Assistant at Argonne National Laboratory
Mathematics and Computer Science Division, Lemont, IL

- Wrote a multiprocess Python module to generate predictions of enzymatic and spontaneous chemical reactions.
- Designed a NOSQL database schema and Implemented API in Python to enable database integration into 3rd party workflows.
- Co-developed an AngularJS web application at minedatabase.mcs.anl.gov to facilitate broad use of the metabolite database.
- Presented work at 4 research conferences and co-authored 5 peer-reviewed publications

Education

Doctor of Philosophy, June 2017 — **Northwestern University** Evanston, IL
Chemical Engineering
Relevant Coursework: Data Structures & Algorithms, Machine Learning, Process Optimization

Bachelor of Science, May 2012 — **Rose-Hulman Institute of Technology** Terre Haute, IN
Chemical Engineering & Biochemistry and Molecular Biology, *Magna Cum Laude*