James Jeffryes

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Experience

Since Apr 2019	Sr. Software Engineer at NuMat Technologies *Data Enginering Team*, Skokie, IL

- Architected and implemented a custom Manufacturing Execution System supporting material traceability, quality gates and inventory management using the Django web framework
- Built python drivers to link industrial equipment and controls (ModBus/TCP, RS232, RS485) to modern SCADA systems
- Created observability and alerting stack for over 30 containerized process controllers with Prometheus, Loki, and Graphana
- Hardened systems and initiated cybersecurity training to move organization towards compliance with NIST 800-171 standards

Apr 2019 Jul 2017	Software Implementation Team at Argonne National Laboratory *Mathematics and Computer Science Division*, Lemont, IL

- Implemented 4 new tools and contributed to over 20 existing microservices in the Department of Energy Biological Knowledgebase.
- Redesigned a critical datatype storing genome annotations and implemented ETL methods and an 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

Jul 2017 Mar 2013	Graduate Research Assistant at Argonne National Laboratory *Mathematics and Computer Science Division*, Lemont, IL

- Generated computational predictions of enzymatic and spontaneous chemical activities to build a searchable databases of putative metabolites.
- Implemented a API in Python to enable database integration into Department of Energy Biological Knowledge Base and 3rd party workflows.

Education

Doctor of Philosophy 2017	**Northwestern University** Evanston, IL Chemical Engineering, *Enumerating the Potential Metabolome through Simulation of Enzyme-catalyzed and Spontaneous Reactions* Advised by Drs. Keith Tyo and Christopher Henry
Bachelor of Science May 2012	**Rose-Hulman Institute of Technology** Terre Haute, IN Chemical Engineering & Biochemistry and Molecular Biology, *Magna Cum Laude*

Technical Skills

Data Engineering	Asynchronous Python, Kafka, Machine learning with scikit-learn & dask, MongoDB, Postgres
Web Development	JavaScript, Django, Flask, Node.js, Vue.js, Streamlit, Selenium E2E testing
DevOps	Azure Pipelines, Docker, Portainer, AWS ECR & Fargate, Grafana, Prometheus, Loki
Cheminformatics	QSAR modeling, Compound & reaction database design, ChemAxon suite, OpenBabel, RDKit