

Charles Reid

Address

charles@charlesreid1.com

Websites

<https://charlesreid1.com>

<https://github.com/charlesreid1>

Personal Statement

I am a multi-talented data engineer with experience in statistical models, machine learning, and design of experiments. Expertise in building data pipelines and performing industrial experimental design from experience as an early employee at a fast-growing engineering startup, building and running computational models on supercomputers at a national lab, & teaching algorithms and data structures in Java.

Strengths & Skills

Identifies new opportunities and solves challenges using data.
Excellent analysis, problem solving, and communication skills.
Ownership of data process: ingestion, extraction, cleaning, analysis.
Breaks down complex problems to essential models, extracting essential insights.
Quickly learns skills and applies them to new problem domains.

Mathematical Skills: machine learning, statistics, design of experiments, nonlinear optimization, differential equations

Languages: Python, Java, SQL, Bash scripting, some Matlab, some C++

Python Libraries: numpy, scipy, pandas, Jupyter, PySpark, scikit-learn, keras

Cloud & Big Data: Docker, Hadoop, Spark, Beam, Linode, Google Cloud Platform

Misc: Linux tools, L^AT_EX, git/svn, aircrack-ng suite, debugging tools

Experience

Computer Science Instructor

September 2015 - July 2017

South Seattle College, Seattle, WA

- Taught data structures and algorithms in Java
- Mentored students on NSF-funded undergraduate research projects on wireless sensor networks (Docker, SQL, NoSQL, VMs, aircrack-ng suite, stunnel), cybersecurity (VMs, metasploit), facial recognition with neural networks (Keras)

Chemical Engineer

April 2013 - April 2015

Chemical Engineering Consultant

April 2015 - September 2015

Siluria Technologies, San Francisco, CA

- Automated data collection and analysis workflows with Python to improve turnaround time for pilot scale ethylene-to-gasoline reactor from 3 weeks to 24 hours
- Built Python scripts to control laboratory equipment and automate experiments
- Developed high-fidelity C++/Python models of catalytic oxidation
- Informed critical operational and safety decisions with autoignition simulations
- Side project with colleague improved reactor scale-up correlations by over 50%

Engineering Postdoctoral Researcher

August 2011 - April 2013

Lawrence Livermore National Laboratory, Livermore, CA

- Built statistical black box models (Excel/Visual Basic) and detailed physical models (Python/C++) of underground coal gasification
- Analyzed geological site data to inform site selection for Eurasian underground coal gasification project

Education

University of Utah

Ph.D., Chemical Engineering, 2011.

Focus: statistical surrogate models & uncertainty analysis of expensive turbulence models.

Awarded College of Engineering's Outstanding TA Award (2010).

University of Arizona

B.S., Chemical Engineering, 2007.