RICHARD PETTI

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TECHNICAL SKILLS

Languages	Python, C++, Cypher, SQL, CSH/BASH, HTML, LaTeX
Data analysis	Pandas, Numpy, Scikit-Learn, CERN-ROOT, R, Excel
Platforms and Tools	Azure, AWS, Spark, Neo4J, MSSQL, Git, CVS, SVN, PyCharm, Condor

WORK EXPERIENCE

CA Technologies, Inc. - Data Engineer Aug. 2017 - Current

Data Engineer on the business platform team.

- Work within the engineering team to provide design and implementation of backend API services for business applications in the cloud (Python, Flask, Azure, Neo4J, Redis, Nginx).
- Technical lead for development of multiple products and services for the business.
- Improved existing application speed by a factor of six, while making the backend more scalable.
- Develop and deliver from within an Agile, cross-functional team (UI developers, product managers, QA team, software developers).
- Built a recommendation algorithm based on Kmeans clustering to propose products more likely to cross sell to an account.

Rodale - Data Scientist Mar. 2017 - Aug. 2017

Data Scientist at a publishing company.

- Worked with ad ops, editorial, product, and marketing teams to provide analytics tools and support.
- Lead and organize the A/B testing effort for the teams.
- Automated reports providing critical analytics at the fingertips to the non-technical teams with output to daily email attachments, Google Sheets updates, and online dashboards (Python, Django, Postgres, AWS EB, myriad of APIs including Google Analytics).
- Built automated ETL process to push data from many sources into the BigQuery data warehouse.
- Built a dashboard to pull together disparate sources of revenue and metrics from the data warehouse.
- Set up web tracking through Google Analytics and Google tag manager.
- Topic analysis using Natural Language Processing techniques to provide more detailed context on content within a content channel based on article text (R and Python sklearn).

Brookhaven National Laboratory - Physicist/Research Associate Aug. 2014 - Mar. 2017

Researcher in experimental science (high-energy nuclear/particle physics).

- Supported the lab mission for the development of a future $1B experimental accelerator facility (eRHIC) through simulation studies.
- Lead researcher for development of four different detector components through simulations.
- Generated pseudo-data utilizing the 50,000 processing core computing farm at Brookhaven Lab and the Condor batch job scheduler.
- Setup an analysis pipeline to transform initially generated pseudo-data for ingestion to different stages of the simulation to final output and visual representation of the results, deployed to the farm.
- Applied the machine learning algorithm SVM to model the path of a particle through a magnetic field.
- Collaborate with other teams to understand constraints and define what the experiment needs.
- Use simulations and data analytics to guide design of the experimental facility by providing intelligence to various groups.
- Provided code documentation (Doxygen, updated nightly) to support users and developers of the simulation package.

EDUCATION

The Data Incubator Jan. 2016 - Feb. 2016

Graduate of Fellowship program

Highly selective and competitive Data Science Bootcamp training academics for industry.

Stony Brook University Sep. 2005 - Dec. 2013

Ph.D in Physics

Thesis: Low Momentum Direct Photons as a Probe of Heavy Ion Collisions.

SUNY Brockport Sep. 2001 - May 2005

B.S. in Physics and Mathematics

Honors & Awards: Summa Cum Laude, Physics Department Scholar.