Christopher H. Greer, Ph.D

Basic Information

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Professional Experience

Activision Publishing, Inc. Boulder, Colorado
Senior Machine Learning Engineer **January, 2021 - Present**

As part of the Advanced Analytics and Machine Learning (ML) team, I support all ML initiatives for the Call of Duty and Warzone franchises. This includes being involved in early concept designs through the productionalization of mature models and stakeholder management. Below are selected highlights from this very diverse role:

- Designed, built, maintained, and improved ML infrastructure. This includes tool developement like autoML, CI/CD (Jenkins), model tracking and management (MLflow) and orchestration (Airflow).
- Crafted and implimented policy around external data ingestion and data product retention for both my internal team and for sharing across the organization.
- Designed, built, and maintained near-realtime applications (via Spark streaming) to combat in-game cheating and other malicious behavior. Typical time-to-action is in the low 10s of seconds.
- Lead the transition of ML infrastructure from AWS to GCP/GCS.
- Created ML models to provide insights into customer conversion, churn, and behavioral segmentation. This leveraged survival analysis, clustering, as well as tree-based and linear methods.
- Supervised junior team members to design and develope recommendation systems to be productionalized in an upcoming title.

Insight Data Science New York, New York
Fellow **January, 2020 - 2021**

- Helped optimize the way NYC health inspectors perform restaurant inspections in order to reduce the time critical health violations remain unaddressed.
- Trained a random forest in Python to prioritize NYC restaurant inspections based on environmental variables and their past inspection histories and provided the results to NYC through an API deployed on AWS.
- Resulted in NYC inspectors identifying $\sim$2.5% more violations in the first half of an inspection window, leading to critical violations being discovered up to 7 days earlier than by the current approach implemented by NYC.

Dept. of Physics and Astronomy, Rutgers University New Brunswick, New Jersey
Postdoctoral Research Associate **September, 2016 - 2021**

- Designed and built parallelized pipelines to process and analyze TBs of astronomical imaging; producing calibrated, standardized data catalogs and rigorous results leading to 2 peer reviewed publications and several hundred hours of telescope time.
- Project managed and coordinated a team of 4, including both senior scientists and graduate students, to perform quality control tasks; deliver science products; and produce peer-reviewed publications.
- Contributed to open source, astronomy-focused, Python projects through bug fixes and feature additions: see photometrypipeline, astLib, and easyGalaxy on GitHub as examples.

Skills

Machine Learning: Linear Models, Decision Trees, SVM, Clustering, Deep Learning, Survival Analysis
CI/CD: Jenkins, Airflow, Docker
Software and Computing: Open Source Contributor, Python, DataBricks, MLFlow, SQL, AWS/GCP, Spark, and other cloud computing applications
Leadership: Experience organizing and leading workshops and collaboration meetings, Teaching and mentoring junior team members, Eagle Scout.

Education

Texas A&M University, College Station, Texas
- Ph.D, Physics (astronomy focus), 2016

The University of Tennessee, Knoxville, Tennessee
- M.S., Physics (astronomy focus), 2009
- B.S., Physics, 2007