Steven Boada, Ph.D

Basic Information

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Professional Experience

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

- 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 ∼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.

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.
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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.

Dept. of Physics and Astronomy, Texas A&M University College Station, Texas
Ph.D Candidate **August, 2010 - 2016**

- Demonstrated that measurements from a planned large observation campaign could be improved by up to a factor of 3 over traditional statistical methods through the use of machine learning.
- Implemented these machine learning methods and produced reliable results in a pilot survey of the real sky and under real-world conditions.

Awesome Projects

Using Imaging to Infer Galaxy Properties

- Predicted galaxy chemical composition with ∼5% error from pseudo-three color imaging, a result better than other current, similar efforts in the literature.
- Leveraged Convolution Neural Networks, trained on GPUs, to analyze ∼150,000 images of galaxies.
- Project start to publication: 4 months (typically ∼1.5 years). See: github.com/boada/galaxy-cnns.

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, 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