

# Steven Boada, Ph.D

---

Contact Information	(615) 200-0119 stevenboada@gmail.com	github.com/boada linkedin.com/in/theboada
Skills	<b>Machine Learning:</b> Linear Models, Decision Trees, SVM, Clustering, Deep Learning, Feature Engineering <b>Statistical Methods:</b> Hypothesis testing, error analysis, Monte Carlo methods, maximum likelihood <b>Software and Computing:</b> Python (e.g. Scikit-learn, Numpy, Scipy, Pandas, Matplotlib, PyTorch), MySQL, ANSI C, Linux Command Line Environments, GPGPU, and HPC applications, AWS <b>Leadership:</b> Experience organizing and leading workshops and collaboration meetings, Teaching and mentoring junior team members, Eagle Scout.	
Professional Experience	<b>Insight Data Science</b> , New York, New York USA <i>Fellow</i> <span style="float: right;"><b>January, 2020 – Present</b></span> <ul style="list-style-type: none"><li>Helped optimize the way NYC health inspectors perform restaurant inspections in order to reduce the time critical health violations remain unaddressed.</li><li>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.</li><li>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.</li></ul> <b>Dept. of Physics and Astronomy, Rutgers University</b> , New Brunswick, New Jersey USA <i>Postdoctoral Research Associate</i> <span style="float: right;"><b>September, 2016 – 2020</b></span> <ul style="list-style-type: none"><li>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.</li><li>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.</li><li>Contributed to open source, astronomy-focused, Python projects through bug fixes and feature additions: see photometrypipeline, astLib, and easyGalaxy on GitHub as examples.</li></ul> <b>Dept. of Physics and Astronomy, Texas A&amp;M University</b> , College Station, Texas USA <i>Ph.D Candidate</i> <span style="float: right;"><b>August, 2010 – 2016</b></span> <ul style="list-style-type: none"><li>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.</li><li>Implemented these machine learning methods and produced reliable results in a pilot survey of the real sky and under real-world conditions.</li><li>Collaborated with group members both in person, and through collaborative tools (e.g., GitHub, SVN).</li><li>Presented scientific results in high-impact, astrophysical journals and at international conferences.</li></ul>	
Data Projects	<b>Using Imaging to Infer Galaxy Properties</b> <ul style="list-style-type: none"><li>Predicted galaxy chemical composition with ~5% error from pseudo-three color imaging, a result better than other current, similar efforts in the literature.</li><li>Leveraged Convolution Neural Networks, trained on GPUs, to analyze ~150,000 images from the Sloan Digital Sky Survey.</li><li>Project start to publication: 4 months (typically ~1.5 years). See: <a href="https://github.com/boada/galaxy-cnns">github.com/boada/galaxy-cnns</a>.</li></ul> <b>Predicting Tournament Performance in Warmachine</b> <ul style="list-style-type: none"><li>Created an Elo based model to forecast the results of upcoming tournaments and identify potential upsets.</li><li>Integrated predictions into a local community ranking system and forecasted ~1800 tournament game results of the popular tabletop game using Python (e.g., Pandas).</li></ul>	
Education	<b>Texas A&amp;M University</b> , College Station, Texas <ul style="list-style-type: none"><li>Ph.D, Physics (astronomy focus), 2016</li></ul>	<b>The University of Tennessee</b> , Knoxville, Tennessee <ul style="list-style-type: none"><li>M.S., Physics (astronomy focus), 2009</li><li>B.S., Physics, 2007</li></ul>