Ryan Beauchemin

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Experience

2022 (current) — Sr. Manager of Personalization and Recommender Science, *Peacock Streaming (NBC)*

As the Data Science leader of Personalization and Recommendations at Peacock, I am responsible for managing business relationships and growing and developing the strongest streaming team possible. So far, I have built graph neural network solutions to solve the title cold start problems, built time-series based solutions for Trending, Popularity and Top 10 algorithms, built content embedding based solutions for Binge, Because You Watched, and You Might Also Like experiences, created Reinforcement Learning solutions to solve for page staleness, and even created web applications for model explainability so editors and product teams can better understand how our models work and what they specialize in serving.

2020 - 2022 — Sr. Manager Data Science and Analytics, *Lowe's Home Improvement*

As the Data Science leader focused on Merchandising at Lowe's with a team of 17 in the US and Bangalore, I worked to create machine learning solutions for freight optimization, space optimization, and assortment optimization, developing a world-class, user friendly localization tool that gave merchants a way to negotiate with vendors and make the best decisions on what to stock in every store. In addition, I created automated database connection utilities and an automated outlier detection mechanism for data scientists in the organization which employs a novel technique of multi-modelling to create a powerful meta-algorithm capable of detecting more hidden outliers. These applications and the support we provided for them drove 2x in merchandising productivity with an incredibly efficient deep neural net model, visualized via a UX-focused React application layer.

2019 - 2020 — Principal Data Scientist, *Lowe's Home Improvement*

As principal, my main goal was to get a set of data driven utilities ready for various aspects of the merchandising community at Lowe's. With only four people, we were able to deliver a RNN-based demand model and expand the team to continue work, as well as a vendor freight optimization tool and a space optimization tool, driving measured incremental value in the millions and billions for margin and revenue respectively.

2017 - 2019 — Sr. Data Scientist, *Lowe's Home Improvement*

During this time, I automated recommendations for a 13% improvement in recommendations with hundreds of millions in incremental revenue, as proven by A/B tests. This boost also allowed me to buy time to refactor pipelines originally created in Alteryx into more sustainable SQL and Python, before selecting the right talent to take over what I had done alone up until then in recommendations and personalization. After that, I created proofs-of-concept with the same strategy in merchandising, marketing, and store operations. In these domains, we would later hire 80 scientists to expand out what I had originally built and sold to internal stakeholders. I taught the new hires mostly about Agile methods and cloud-based systems to align with modern practices in business, and paved the way to the cloud within Lowe's Data Science as the first adopters.

2015 - 2017 — Data Scientist / Web Analyst, *Nabler / Lowe's Home Improvement*

Starting with only 3 other analysts in Lowes' digital team, I bet I could beat Adobe Recommendations with algorithms utilizing product and user data to create personalized recommendations. I trained models on orders, cart additions, views and revenue to optimize the experience. This first model beat Adobe by 250% in incremental revenue, allowing us to end a $7M contract and make the case for data science at Lowe's, expanding our reach.

2012 - 2015 — Research Assistant, *NC Astronomy Research Center & UNC Astronomy*

As a part of the **RESOLVE** team under Dr. Sheila Kannappan, I ran dynamic observation, processed raw telescope data in Python and Fortran, and ran imaging for the 4.1-meter Chilean SOAR telescope, and my research involved determination of 3D galaxy movement from 2D projections.
In Dr. Dan Reichart's group, I helped in the creation of the largest database for Gamma Ray Burst afterglows, working heavily with spreadsheets and data manipulation in a massive SQL database. I was also an assistant in the lab component of the Introductory Astronomy course at UNC.
With Dr. Patrick Treuthardt, I helped determine relationships between out dust lane structure, axial ratios and pattern speeds of galaxies using IRAF, analyzing data in an open format, where museum patrons could watch and ask questions. I also helped in creating informative and exciting visual learning decks for the general public. Finally, we ran interactive H-Alpha "sun-gazing" talks, where the public could use a telescope to safely see the sun and learn more about it. We were featured in Wired magazine discovering the first Double Hoag's galaxy.

Education

2022 MS Computer Science, *Georgia Institute of Technology*
2015 BS Physics, *University of North Carolina at Chapel Hill*

Proficiencies

AI/ML	Python, Keras, Tensorflow
Software	Streamlit, React, Flux/Redux, NodeTS/JS, FastAPI
Data	Druid, Presto, Hive, Teradata, PostGres, and other SQL variants
CICD	Git, Jenkins
Cloud	GCP, AWS