Dagart Allison // Data Scientist

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SUMMARY

I am passionate about **solving business problems** using Data Science and **using visualizations to communicate** those solutions to stakeholders. I systematically & creatively utilize my skillset to **add tangible value** to the team, the business, and the end-user. I am continually learning and always looking to improve.

SKILLS

Technical Skills: Python, SQL, Git, Linux, AWS, Databricks, Tableau, PySpark, SparkSQL, Pandas, Numpy, Statsmodels, SciPy, Seaborn, Matplotlib, TensorFlow, Deep Learning, Artificial Intelligence, A/B Testing, Linear Regression, Logistic Regression, Classification, Random Forest, XGBoost, Clustering, PCA, Forecasting, Prophet, Anomaly Detection, Interpretability, SHAP, Statistics, Chi-Squared, T test, Confidence Intervals, Hypothesis Testing, Model Deployment, Docker, Flask, Streamlit, Deployment.

Soft Skills: Research, Communication, Accountability, Initiative, Collaboration, Critical Thinking, Passion, Presentation, Project Delivery, Idea Generation.

PROJECTS

Data Science Portfolio Website - https://dagartga.github.io/
 • **Quantifying Sales Uplift with Causal Impact Analysis** - Analyze the effect of a "Delivery Club" special for a grocery retailer and uses a Python causal impact library to show there was a *41.1% uplift* in sales because of the "no charge" delivery special.
 • **Web App for Parkinsons Prediction using Boosted Models** - Predict the severity of a patient's Parkinson condition to assist doctors in treating patients. Uses *SMOTE* for class imbalance and *boosted tree models* (XGBoost, CatBoost, LightGBM) with tuning and feature engineering, resulting in the F1 score improves from 0.3 to 0.75 and *Recall above 70%*.
 • **Understanding Alcohol Product Relationships Using Association Rule Learning** - Produces the strength of *relationship between products* in alcohol retailers large inventory based on customers' buying patterns. Discovered a stronger purchase relationship between New Zealand and French wines than with Australian wines.
 • **Compressing Feature Space For Classification Using PCA** - Predicts which customers are likely to buy the new Ed Sheeran album using historical music sales data. Use PCA to compress the large feature space into 24 features, *retaining 75% of information*, followed by Random Forest to predict with *93% accuracy*.
 • **The "You Are What You Eat" Customer Segmentation** - Segments customers for a grocery chain to provide insights for the marketing and purchasing teams on customer preferences. Uses WCSS, the "elbow method," and *K Means* to discover 3 main clusters of customers: *74% General Diet, 15% Vegetarian, 12% Vegan*.
 • **UK Bank Customer Demographics Tableau dashboard** for region targeted marketing campaign.

EXPERIENCE

Data Scientist | Tripalink | Los Angeles, CA | 2022 - 2023
 • Worked with the Databricks framework to analyze **website traffic KPIs** and **Google Ads performance**.
 • Created a data pipeline for Google Analytics data using Big Query and Databricks to parse data and store as Delta tables. Built **Superset dashboards** to deliver insights into website traffic based on Daily Active Users, Daily Sessions, Conversion Rate, and Bounce Rate resulting in a **7.5% increase in website conversions**.
 • Built an **anomaly detection** model for website KPIs using Holt Winters, ARIMA, or SARIMA depending on the metric characteristics.
 • Developed a **ranking algorithm** for rental property listings that resulted in **20% more** available units being displayed and **improved Click Through Rate by 13%.**
 • Built a financial forecasting pipeline using a Holt-Winters or SARIMA model for larger historical data and SMA for newer financial data. Budget forecast model **improved expense budget MAPE from 70% to 10%** and reduced the need for managers to do tedious budgeting work.

Property Manager | Realty Services Management Group | Tustin, CA | 2016 - 2022
 • Working independently as the main property manager for 8 rental properties in a family run business.
 • Streamlined operations through systematic batching of tasks to reduce time spent on remedial tasks by 50%. Implemented cloud accounting for remote work.

- Responsibilities and Skills: Basic accounting skills with Quicken. Coordinating repairs with contract workers and tenants. Manage business licenses, utility and mortgage payments, and tax preparation. New tenant acquisition and tenant move out accountability.

Associate Scientist | Dart Neuroscience LLC | San Diego, CA | 2014 - 2018
- Took an automated robotics system from non-operational to fully functioning for high-throughput crystallization experiments. The robotics went from a capacity of 30 trays per day to 100 trays per day.
- Utilized and maintained the robotics for the crystallization group. Communicated effectively with the group to ensure experiments were properly setup and delivered results. Produced proteins structures for a new target in multiple forms.
- Worked closely with the Rigaku engineering team to optimize high throughput performance and customization of the CrystalMation robotics. Designed and performed biologic experiments on therapeutic proteins.
- Developed my own experimental pipeline for protein crystallization. Strong skills in searching through scientific journals for impactful information for experimental design.

Research Assistant II | The Scripps Research Institute | La Jolla, CA | 2013 - 2014
- Ran the Rigaku automated robotics for protein crystallization experiments.
- Improved work capacity from 50 trays per day to 100 trays per day. Improved accuracy of automation from 80% to 95%.
- Harvested crystals for the Joint Center for Structural Genomics.

Medical Laboratory Technician | PacifiCord | Irvine, CA | 2012 - 2013
- Worked with focus and strong attention to ensure the irreplaceable product, cord blood, was processed and stored effectively for life saving therapies.
- Critical decision making on processing protocol to ensure the highest level of stem cells were saved and stored.
- Detailed note taking and following regulatory guidelines for stem cell therapies.

Research Associate | Eli Lilly & Company | San Diego, CA | 2008 - 2009
- Maintained the lab robotics, participated in the evaluation and purchasing of new robotics. Designed and scripted protocols for the robotics.
- Developed co-crystallization experiments for proteins which led to novel structures and produced relevant data for lead compound development. Extensive experience with crystal looping, cryoprotectants, and cryocooling. Analyzed beamline screen shots to create a consistent high resolution freezing protocol.
- Successfully crystallized a novel membrane protein to 1.2 Angstrom resolution. Performed the following membrane specific techniques: lipidic cubic phase and detergent screening. Optimized membrane protein crystallization for screening of 1,000 mixture fragments requiring soaking of 300+ crystals with high resolution requirements of 2.5 Angstrom data

Research Associate, Biologist | SGX Pharmaceuticals | San Diego, CA | 2004 - 2008
- Crystallized soluble proteins using vapor diffusion techniques in hanging drop and sitting drop experiments. Developed crystallization strategies for various proteins, including kinases, GTPase, and histone methyltransferase resulting in high resolution crystal structures.
- Delivered approximately 30 crystallization trays scored daily for 3 years resulting in a discerning eye for protein behavior in various conditions.
- Developed co-crystallization experiments for proteins which led to novel structures and produced relevant small molecule data for drug development. Used experimental data and molar excess ratios to find optimal concentration of compound.

EDUCATION & CERTIFICATIONS

AWS Machine Learning Specialty | 2024
AWS Certified Cloud Practitioner | 2023
Google Advanced Data Analytics | 2023
Springboard Machine Learning Engineer Career Path | 2022

Bachelor of Science, Biology | University of California, San Diego | La Jolla, CA | 2003
- Men's Swimming Team Captain and Division II All-American