Daniel C. Morton

dacmorton@gmail.com 847-275-8686 in/mortondaniel/ https://github.com/DanielMorton

SUMMARY

Highly experienced Senior Data Scientist with expertise in machine learning, data science, and AI technologies. Strong track record in developing data-driven solutions across various domains, including keyword recommendations, B2B targeting, and marketing optimization. Dedicated to leveraging analytical insights to solve complex problems and achieve strategic goals.

EXPERIENCE

Senior Data Scientist
6sense **November 2021 - October 2022**

• Engineered an advanced keyword recommendation system leveraging FastText, Gensim, and Generalized Mixture Models, resulting in a 50% increase in companies utilizing keyword recommendations and doubling keyword volume.
• Solved outstanding client need by developing a new gradient boosted model, using XGBoost, to predict closed deals from activities indicating prospect interest, allowing sales teams to target top 10-20% of prospects by value.
• Guided marketing teams to target top 5-10% of prospects by training models for new and existing customers to determine best accounts and contacts, using Random Forest and Logistic Regression.
• Constructed a robust alert system in Python to ensure model reliability by continuously monitoring feature distribution, identifying retraining triggers and optimizing long-term model performance.

Data Scientist
Simon Data **May 2019 - December 2019**

• Implemented boosted tree models, using XGBoost to improve accuracy of customer churn rate predictions, revealing demographic patterns allowing clients to refine strategies and incentives for customer retention.
• Performed analysis in Python of email campaign performance over 7 countries enabling clients to optimize revenue by demographic targeting based on national trends.

Senior Scientist (previously Data Scientist)
Conversant **January 2015 - May 2019**

• Led the end-to-end development of a robust linear program in Java to optimize ROI and ad spend across families of campaigns; dynamically adjusting budgets based on daily performance.
• Spearheaded the implementation of a distributed Docker PySpark platform for simulating digital marketing campaigns, eliminating live test runs, predicting campaign strategy performance and resulting in a 100% reduction in testing expenses.
• Streamlined forecasting responsiveness by replacing complex daily batch with simplified hourly runs on Spark cluster, allowing hourly delivery strategy adjustments and reducing response time from 1 day to 1 hour.
• Mentored junior team members to facilitate rapid onboarding.

PROJECTS

South Mountain Bird Survey **December 2019 - Present**

• Solved problem of unfeasible manual input for biology professor by building automated framework to process 10 years of audio data with BirdNET.
• Executed in-depth analysis of BirdNET accuracy, identifying gaps and proposing remediation strategy.

Larch Case-bearer (Larch Repository) **June 2021 - July 2021**

• Constructed and validated object detection models (mAP 50.1) predicting larch tree health in Sweden.
• Built, tested, and published package to streamline training and validation operations (Petrel Repo).

Stanford Course Projects **January 2021 - May 2021**

• Stress-tested Neural Radiance Fields' accuracy. Reconstructing 3D scenes from 2D images.
• Implemented image segmentation models to determine land use in Chesapeake Bay satellite data.

Cornell NABirds (Falco Repository) **May 2020 - August 2020**

• Evaluated model size and image resolution impact on image classification accuracy on 555 common bird image classes, achieving 80-85% accuracy on best image resolution.
• Trained and assessed object detection models for classification and localization accuracy (mAP 80.6).
• Published results of NABirds and Larch Case-bearer experiments in Towards Data Science.

SKILLS

Scala, Python, Spark, PySpark, SQL, Hive, Git, Docker, Jira, Google Colab, Jupyter, SageMaker, Scikit-learn, NumPy, Pandas, Matplotlib, XGBoost, Seaborn, Gensim, Machine Learning, Rust, Java, C++, Go, Bash, R, Presto, Hadoop, MapReduce, TensorFlow, PyTorch, Keras, Deep Learning, Artificial Intelligence, SciPy, Statistical Modeling, LLM, GenAI

EDUCATION

University of Illinois

PhD/MS in Mathematics

Northwestern University

MS in Analytics

Wake Forest University

BS in Mathematics, *summa cum laude*

PROFESSIONAL DEVELOPMENT

Stanford

- Computer Vision: From 3D Reconstruction to Recognition - cs231a
- Convolutional Neural Networks for Visual Recognition - cs231n
- Machine Learning - cs229

Coursera

- Deep Learning 5 Course Specialization
- DeepLearning.AI TensorFlow Developer
- TensorFlow: Data and Deployment
- Machine Learning Engineering for Production (MLOps) Specialization
- Data Structures and Algorithms Specialization
- Accelerated Computer Science Fundamentals