Jeremy Andre

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Technical Skills

Languages & Tools: Python, JavaScript, SQL (PostgreSQL), Excel, Power Query
Machine Learning: TensorFlow, PyTorch, scikit-learn, Computer Vision, Deep Learning
Data Analysis: ETL Pipelines, API Integration, Data Visualization, Statistical Analysis
Web Technologies: Firebase, Leaflet.js, Chart.js, D3.js, HTML/CSS
Specialized: GIS, Rate-Limited API Management, Database Design, Machine Learning Operations

Professional Experience

Independent Data Visualization Developer January 2020 - Present
Self-Employed *Remote*

- Developed and deployed machine learning model achieving 91.23% accuracy across 117 North American bird species
- Built interactive GIS platform tracking 5,461 bird mortality incidents with real-time updates and clustering
- Designed ETL pipelines integrating iNaturalist and eBird data using rate-limited API calls
- Created automated financial analysis system processing thousands of transactions with pattern detection
- Collaborated with Dr. Daniel Hanley (GMU) on bird collision pattern analysis and data visualization

Independent Research Assistant January 2021 - 2023
George Mason University *Fairfax, VA*

- Analyzed 4,000+ herbarium specimens for North American flora research
- Contributed to research proposals and scientific papers in development

Projects

Bird Species Classifier ML Model 2023
TensorFlow, Computer Vision, Deep Learning *Individual Project*

- Developed ML model achieving 91.23% accuracy across 117 North American bird species
- Trained on 292,500 images with 11 species reaching 100% accuracy and 60+ species exceeding 95%
- Implemented custom attention mechanisms for fine-grained visual classification
- Deployed model on Hugging Face platform with real-time inference capabilities

OneStone Bird Map 2020 - Present
Firebase, PostgreSQL, Leaflet.js, Chart.js *Individual Project*

- Built interactive mapping system tracking 5,461 bird mortality incidents with real-time updates
- Implemented ETL pipelines processing data from multiple sources including iNaturalist and eBird
- Developed custom marker clustering algorithm for efficient visualization of large datasets
- Integrated multiple APIs with rate-limiting and caching optimization

PPalytics - Financial Analytics Platform 2020 - Present
Excel, SQL, Chart.js, Power Query *Individual Project*

- Built automated ETL pipeline for PayPal transaction processing and categorization
- Implemented comprehensive financial analysis with interactive visualizations
- Developed pattern recognition system for recurring payment identification
- Created privacy-focused client-side data processing architecture

Fairfax County Biodiversity Dashboard 2020 - Present
PostgreSQL, Leaflet.js, D3.js *Individual Project*

- Designed geospatial visualization system for county-wide biodiversity data
- Built ETL pipeline for iNaturalist data integration with taxonomic filtering
- Implemented advanced clustering and zoom-level dependent data loading
- Created dynamic charts for seasonal activity and species prevalence analysis

Additional Experience

Digital Business Analytics 2020 - Present

Self-Employed *Remote*

- Designed Excel-based system reducing operational overhead by 85%
- Built interactive dashboards for financial metrics and customer trends
- Conducted market research and competitive analysis for business growth
- Implemented advanced Excel functions and Power Query for business insights